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EXPLAINING DOMESTIC VIOLENCE

BY

EDEM FRANK AVAKAME ©

A THESIS SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS
OF THE DOCTOR OF PHILOSOPHY DEGREE

DEPARTMENT OF SOCIOLOGY

EDMONTON, ALBERTA
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TO MY PARENTS

ABSTRACT

This doctoral dissertation research is an empirical test of some of the most prominent conventionl wisdoms about the dynamics and etiology of inter-spousal violence. Several major propositions have been tested. The first proposition, deriving from Gottfredson and Hirschi's general theory says that people grow up to become violent and criminal adults because of insufficient parental supervision and discipline. A form of discipline especially pertinent for family violence theory and research is physical punishment. The second major proposition, deriving from the intergenerational transmission of violence theory, states that when we spank children we teach them that it is acceptable to use violence to induce compliance. Hence, in direct contradiction to the first hypothesis, this proposition leads to the prediction that spanking in childhood magnifies violence in adulthood. A third major hypothesis, also deriving from the intergenerational transmission of violence theory, states that conjugal violence is learned by watching parents' violence towards one another in families of origin. A fourth hypothesis comes from feminist theories which ascribe inter-spousal violence to income and power differentials between men and women. The proposition states that the *higher the economic and decision making power of men vis-a-vis their wives, the greater is the incidence of violence against wives. These hypotheses are tested with data from the first ever nationwide random-sample survey of family violence conducted by Gelles and Straus (1975).*

Results of the analysis show little support for the proposition deriving from the general theory. Similarly, the data show no support for the spanking-leads-to-violence hypothesis. On the other hand, the data lend support to the hypothesis that inter-parental violence has a violence amplification effects on children. The data lend the strongest support to propositions deriving from the feminist theories. Physical violence in conjugal unions is mainly perpetrated by males against females and one of the major factors responsible for it is males' perception of powerlessness vis-a-vis their wives. As alternative explanations, we find scant evidence for the idea that stress or subscription to a 'macho' culture of violence cause people to be violent towards their spouses.

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CHAPTER 1: INTRODUCTION

Although much historical evidence has shown the family to be a violent social institution (Weis, 1989), it did not become an area for proper scholarly inquiry until the 1960's for child abuse and 1970's for inter-spousal violence (Weis, 1989; Gelles and Straus, 1985). Between 1972 and 1980 alone, approximately 1170 research publications on these topics appeared in learned journals (Wolfgang and Weiner, 1981). It has been estimated by Bolton et al. (1981) that through 1978, only about 20% of the published research on family violence had any scholarly substance. More than seventy-five percent of these 'respectable' pieces of research relied on official case records or aggregate statistics; about three percent focused on incidence and prevalence issues, while about eleven percent concerned themselves with social and psychological correlates of family violence.[1]

The United States of America was the first western nation in which the issue of family violence crystallized as a social problem worthy of research attention. Straus (1974) has outlined a number of factors that galvanized research and public policy attention on issues related to all forms of domestic violence in the United States. First among these was the public visibility of violence epitomized by the assassinations of Martin Luther King and Robert Kennedy and the subsequent commissions of inquiry which documented a high degree of prevalence of violence even within the family. This punctured the myth of the family as safe haven from the vicissitudes of the outside world. The second of these factors was the women's movement. This brought large numbers of women into contact with one another. The mutual sharing of information revealed the systematic nature of what many women had hitherto thought of as isolated cases of their deviant husbands. Finally, it was during this period that the consensus school of thought in American academia began to see its decline. This concern about the violent nature of the family was later to spill over into Canada.

---

[1] The specific kind of family violence of interest to us, in this research, is violence perpetrated against the spouse. For the avoidance of doubt, the phrases family violence, inter-spousal violence, domestic violence, conjugal violence, and violence against the spouse are used interchangeably throughout this thesis.

Despite the explosion of research into all facets of family violence the area has been dogged by a number of seemingly intractable problems. Until the trail blazing survey of Straus, Gelles, and colleagues in 1975 in the United States[2] most research on inter-spousal violence was very rudimentary and used unreliable data. The rudimentary analyses conducted were almost invariably based on clinical samples and biased official statistics. As a result 'the empirical research has generated findings that are sometimes contradictory, often discrepant, and generally unreliable' (Weis, 1989:118). Furthermore, research into inter-spousal violence, indeed all kinds of violence within the family, has largely been characterized by descriptive work, with little hypothesis testing, causal modelling, or attempts to construct and test integrated theories of different types of family violence (Gelles, 1992).

These two factors have seriously impaired the generation of robust conclusions. Almost two decades after the problem of good quality data has been partly solved, Straus and Gelles are still admonishing that '...the field [of family violence research] must move beyond accepting conventional wisdom and post hoc conclusions as theory. For the study of family violence to be truly advanced, programs of research must begin to test the various notions, hypotheses, and propositions that have been developed over the past 25 years' (1992:28).

---

[2] The 1975 survey, in part, was designed and administered to assess the amount of family violence that occurs. Nevertheless, the 1975 survey included data that could be used to test causal thories. A follow-up survey was again carried out in 1985 but its focus was slightly different from the 1975 survey. The 1985 survey was manly designed to obtain information on how families cope with violence and consequences of the violence for physical and mental health. For details about the similarities and differences between the 1975 and 1985 surveys see Straus and Gelles (1992), Chapter 1.

In addition to all the above, with the increasing criminalization of all forms of violence within the family, there is the growing recognition of the need to investigate the relationship between family violence theory and research, on the one hand, and conventional criminological theory and research, on the other. Are unique theories necessary for the explanation of violence within the family? Straus (1980), and Dobash and Dobash (1979) seem to agree with the necessity of new and unique theories of family violence.

Hotaling, Straus, and Lincoln (1989) and Gottfredson and Hirschi (1990) disagree with this opinion. They argue that the perception that unique theories are needed to explain family violence is based on the speculative premise that the empirical manifestations of different forms of violence originate from their own unique latent causes. According to Gottfredson and Hirschi (1990), this belief is false. All acts of violence emanate from the same latent roots. Hotaling, Straus, and Lincoln

(1989) add that the belief in the need for unique theories of family violence is, perhaps, due to the fact that data on violence in families come largely from victims while data on non-family violence comes largely from offenders. This creates the perception that criminological theories might be inappropriate for the explanation of violence in the family. Whatever the case might be, they argue, belief in the need for presumed special theories masks the need for more direct studies of violent offenders within families.

The present research speaks to these two major issues in family violence theory and research. Among other things, it is a rigorous test of some of the most prominent conventional wisdoms about the etiology of spousal violence but does so, mainly, within the context of a general criminological theory. Specifically, the present research contributes to the existing stock of knowledge in a number of significant ways.

It employs a new methodology to test existing knowledge in a bid to separate the theoretical chaff from the grain, the goats from the sheep, so to speak. As pointed out earlier, there is the widespread recognition of the urgency of this task (Weis, 1989; Straus and Gelles, 1992; Hotaling, Straus, and

Lincoln, 1989; Williams, 1992).

The present study also seeks to bridge the gap between criminological theory/research and traditional family violence theories/research. Some (e.g., Hotaling, Straus, and Lincoln, 1989) are beginning to question if family violence research warrants a whole new theoretical enterprise. They wonder if family violence theory/research cannot be integrated into traditional criminological theory/research. There is not yet a conslusive answer to this question. As a result, this research is a significant step towards the resolution of that question. Because it applies a prominent criminological theory to family violence research, the present research appears capable of casting some light on how well conventional criminological theory can explain domestic violence.

Finally, this research will help to clarify some popular controversies in the family violence literature. Specifically, there is the persistent idea that the specification and estimation of causal models must await the collection of longitudinal data (Straus and Gelles, 1992; Hotaling Straus, and Lincoln, 1989). There is also the [mis]conception that 'path analysis and the utilization of other procedures for the estimating structural equation models, e.g., LISREL, [even though they are sorely needed to resolve theoretical controversies] are premature at this point, given the mixed levels of measurement and the need to explore alternative indices and modifications of theory.' (Williams, 1992:525).

ON THE FEASIBILITY OF INTEGRATING DIVERSE THEORETICAL PROPOSITIONS

A major part of this research involves the pursuit of logical connections between a number of theories; an activity that is usually referred to as theoretical integration. A few comments about theoretical integration are, therefore, in order. Theoretical advancement in the social sciences has generally proceeded through three processes: theory elaboration, theory proliferation, and theory competition (Wagner and Berger, 1985). Wagner and Berger have defined theory elaboration as the use of new theory to make an old theory more specific or more general; theory proliferation as the use of new ideas from one theory to generate a theory concerned with a new or different sociological problem or data base; and theory competition as choice of theory through comparison. The three processes are not always mutually exclusive.

Theory development in the area of crime and deviance has for a long time proceeded via the route of theory competition. Criminological theories have been traditionally '...oppositional in character, simultaneously attacking one view of the phenomenon and aggressively defending another (Hirschi, 1979:37). While there have been some attempts at the exploration of commonalties between and among criminological theories, (e.g., Elliott et al., 1979; Agnew, 1992) the oppositional tradition still constitutes the orthodoxy in criminological theory construction. Because the oppositional tradition creates the impression of theoretical progress, there must be a way of assessing the explanatory utility of the 'new' vis-a-vis the 'old'. It is this concern that has given rise to the idea of theoretical integration. We share Thornberry's (1989:52) view of theoretical integration as '... an act of combining two or more sets of logically interrelated propositions, in order to provide a more comprehensive explanation of a particular phenomenon'.

Liska et al., (1989) have outlined four major styles of theoretical integration: horizontal integration, sequential integration, deductive integration, and cross-level integration. They have, in our view, adequately outlined what these kinds of theoretical integration are and so we will not spend time re-inventing the wheel. Some, notably Hirschi

(1979, 1989), are vehemently opposed to any kind of theoretical integrative effort because they perceive it as an inherently fruitless exercise. Their chief concern is that theoretical integration necessarily involves, to a larger or smaller extent, a sacrifice of theoretical purity. While we share this concern, we believe that refusing to explore prominent logical connections and conceptual and/or empirical commonalties between theories for the sake of maintaining theoretical purity is not helpful for the advancement of knowledge. We share the view of Liska et al., (1989:5) that '...there is clearly a pressing need for [further] theoretical development, and it seems only prudent to consider new points of departure including concerted efforts at theoretical integration'. While this might involve some sacrifice of conceptual elegance and theoretical purity, the payoffs, in terms of a better understanding of our dependent variables, crime and delinquency, would seem to justify such a price.

The kind of theoretical integration involved in this research is what Wagner and Berger (1985), and Thornberry (1989) have called theoretical elaboration. Liska et al., (1989) have called it end-to-end or sequential integration. It involves the conceptualization of a dependent variable in one theory as an independent variable in another, an independent variable in one theory as a dependent variable in another, or both. This is a legitimate enterprise when some of the theories involved posit proximate causes of the phenomenon in question while others posit ultimate causes. 'Rather than starting with multiple theories and attempting to reconcile their differences to generate a comprehensive model, theoretical elaboration explicitly starts with a particular theoretical model. Accepting its assumptions and level of explanation, and causal structure, it attempts to build a more and more comprehensive model by the logical extension of basic propositions contained in the [original] model (Thornberry, 1989:56).

Such an effort in theoretical elaboration is likely to yield several payoffs. First, the addition, deletion, combination, or re-ordering of propositions are likely to offer a better explanation of the phenomenon under explanation. Second, it facilitates the re-evaluation and possible alteration of the basic assumptions of the original theory. Third, the structure of the original theory might change for the better. Finally, competing theoretical models could 'blend' into a more general body of explanatory principles. In sum, therefore, theoretical elaboration appears capable of breaking down barriers between seemingly 'competing' theoretical perspectives. (Thornberry, 1989:56-60).

ON THE QUESTION OF TEMPORAL AND CAUSAL ORDER

Another important issue that has to be addressed up front is that of the temporal ordering of our variables. This question has frequently generated vigorous debate in cross-sectional research. Our dependent variable, violence, is a self-report measure of what respondents did in the previous year while a good number of our explanatory variables measure opinions or activities in the current year. This would appear to violate temporal order since opinions and activities in the present cannot determine action in the previous year.

A frequent solution to this problem has been the call for longitudinal research (e.g., Petersilia, 1980; Blumstein et al., 1986). Nevertheless, Gottfredson and Hirschi (1990) have questioned the utility of longitudinal data as a solution to the problem of temporal and causal order. In their view, this view is based on the mistaken assumption that crime is the consequence of developmental processes throughout the life cycle, or as a consequence of positive learning by malleable individuals. In

Gottfredson and Hirschi's view, crime is a consequence of stable personality characteristics of people and the predictable situations and opportunities which come their way. As a result, they contend, theories of crime can be adequately tested at any point in the life course without serious consequences for causal or temporal order [see Gottfredson and Hirschi 1990:107-108].

Fortunately, there are some very recent empirical tests of these alternative theoretical views, using longitudinal data, in the criminological literature (Nagin and Paternoster, 1991; Nagin and Farrington, 1992a, 1992b). The resulting research evidence is in support of Gottfredson and Hirschi's persistent heterogeneity thesis. Individual differences in the propensity to engage in criminal behaviour, once established early in life, persist throughout the life course. This being the case, the question of temporal order ceases to be a particularly serious problem. Factors which are capable of explaining involvement in criminal activity in the past are equally capable of explaining them in the present. Having said these, let us now delineate the order in which the thesis flows.

Chapter 1: Introduction

Chapter 2: Research Design

Chapter 3: Explaining Physical Violence
Chapter 4: Explaining Psychological Violence
Chapter 5: Any Alternative Explanations?
Chapter 6: Summary, Discussion, and Conclusions.

We proceed with a specification of the research design.

CHAPTER 2: RESEARCH DESIGN

GOTTFREDSON AND HIRSCHI'S GENERAL THEORY OF CRIME

Gottfredson and Hirschi (1990), have recently formulated what they call a general theory of crime in which they heavily indict the fractionalization and specialization of criminological theories on the basis of types of crime. In their opinion, this generates conceptual chaos and masks the discovery of important generalities in crime and criminality.

One way out of the apparent conceptual chaos, they suggest, is to focus on the diverse acts of interest to researchers so as to observe what causal commonalities exist. This will make it easier to correctly identify causal mechanisms rather different from those generated by adherence to the common notion that each particular behaviour has distinct etiological foundations. All acts that cluster around the labels of crime and deviance across all societies, they argue, share a common structure and, therefore, common causes. Always, they produce immediate short-term pleasure or benefit to the actor; in all cases the behaviour entails long term costs.

Drawing on ideas from enlightenment philosophy, especially the classical utilitarian ideas of Jeremy

Bentham, Gottfredson and Hirschi subscribe to the notion that criminals are people who seek to enhance their self interests like everybody else. Criminals differ from non-criminals only to the extent that social and legal sanctions are of little relevance to their long term considerations.

The heart of the theory lies in the argument that:

> A conception of crime presupposes a conception of human nature. In the classical tradition, represented by Thomas, Hobbes, Jeremy Bentham, and Cesare Beccaria, human nature was easily described: "Nature has placed mankind under the governance of two sovereign masters, pain and pleasure"[3] (Bentham, 1970:[1789]:11). In this view, all human conduct can be understood as the self-interested pursuit of pleasure or the avoidance of pain. By definition, therefore, crimes too are merely acts designed to satisfy some combination of these basic tendencies. The idea that criminal acts are an expression of some fundamental human tendencies has straightforward and profound implications. It tells us that crime is not unique with respect to the motives or desires it is intended to satisfy. It tells us that crime presupposes no particular skills or abilities, that it is within the reach of everyone without specialized learning. It tells us that all crimes are alike in that they satisfy ordinary and universal desires. It tells us that people behave rationally when they commit crimes and when they do not. It tells us that people are free to choose their course of conduct, whether it be legal or illegal. And

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[3] emphasis in original.

> it tells us that people think and act first for themselves, that they are not naturally inclined to subordinate their interests to the interests of others (Gottfredson and Hirschi, 1990:5).

Seen in this light, there is nothing wrong genetically, psychologically, or socially with people who engage in conjugal violence. They do it because they have learned that it pays to do so. As a result, they will do it whenever they perceive they can get away with it. It, therefore, 'follows that crime is caused or prevented by a constellation of pleasurable or painful consequences[4]' (Gottfredson and Hirschi, 1990:5).

In the view of Hirschi and Gottfredson, the focus of criminological theory and research should NOT be the question of why some people commit crimes. On the contrary, we should focus on why most people do not commit crimes even under the most crime prone conditions. In their theory, crime is the use of force or fraud in the advancement of one's interests. In all human societies, they argue, there are certain rules of conduct defining what is legal and criminal. In all human societies, there are rules against the use of fraud and force, at least, against members of the in-group. Granted this definition of crime is valid, cross-cultural and cross situational definitions of crime become less problematic. The stock swindler in New York and the wife beater in Edmonton all fall in the same category even if the acts in which they are involved appear to be different in form.

---

[4] Emphasis in original.

Furthermore, this idea dissolves the distinction between crime and deviance which is often premised on classifications encoded in the criminal law. In their view, there is no empirical evidence that establishes credible differences between criminals and non-criminals beyond their tendency to commit criminal acts. The remarkable thing is that these differences remain reasonably stable with change in the social location of individuals and change in their knowledge of the operation of sanction systems. These differences, they argue, are a product of **SELF-CONTROL**: the differential tendency of people to avoid criminal acts whatever the circumstances in which they find themselves. To this extent, they see little point in trying to determine the causal order between drug use and delinquency, for instance. As far as they are concerned, specification of a causal relationship between the two is spurious. Both activities are due to a common underlying personal attribute:

criminality, a consequence of lack of self-control.

What then are the elements of self-control? They outline the following (Gottfredson and Hirschi, 1990:89-94):

1. Criminal or deviant acts usually provide immediate gratification of desires. People with low self-control have a 'here and now' orientation. People with high control, in contrast tend to defer gratification.
2. Criminal acts often provide simple or easy gratification of desires. People with low self controls lack the perseverance skills and the tenacity of purpose that facilitate long term results.
3. Criminal acts are exciting, risky or thrilling. People lacking self control tend to be adventuresome, active and physical. Those with high controls tend to be cautious, cognitive, and verbal.
4. Crime provides few or meagre long term benefits. They interfere with long term commitments to jobs, marriage, family and friends. People with low self control tend to have short time horizons.
5. Most crimes require little skill or planning. The cognitive requirements for most crimes are minimal. People with low self control are not very analytical.
6. Crime often results in pain or discomfort to the

victim. Property is lost, bodies are injured, privacy is violated, trust is broken. A collorary of this is that people with low self-control tend to be self-centred and insensitive to the suffering and needs for others. It does not follow, however, that they are routinely unkind.

According to Gottfredson and Hirschi (1990:97-120), the key determinant of self-control is parental discipline in the family of origin. People who grow up in homes in which there are clear rules supporting conventional norms about appropriate and inappropriate behaviour are more likely to be law abiding than those who come from permissive homes. Strict parental discipline in terms of rewards for good behaviour and the use of punishment to extinguish noxious behaviour is the best way to ensure that people develop good self-control.

Recall that Gottfredson and Hirschi's definition of crime is the use of force or fraud in the advancement of one's interests. If children are punished for the use of force or fraud to advance their interests, they learn to associate these activities with the pain or discomfort that results from punishment. Since in Gottfredson and Hirschi's view, a fundamental characteristic of human beings is the avoidance of pain, children will learn, with time, to avoid those activities that yield pain and/or discomfort. In the context of Gottfredson and Hirschi's general theory, the causal scheme in the genesis of family violence will be as shown in Figure 2.1.

PARENTAL DISCIPLINE --> SELF-CONTROL --> VIOLENCE

Figure 2.1.

In this conceptual scheme, the most important causal variable is parental discipline; although the relationship between parental discipline and criminality is mediated by what they called self-control: the ability to restrain the self from the use of force or fraud to advance one's interests even in the face of intense provocation. Because crime is caused or prevented by a constellation of painful and pleasureable consequences, pain inflicted on children through physical punishment should play an important role in this respect (Gottfredson and Hirschi, 1990:97-120; Hirschi, 1983:53-55).

Although Gottfredson and Hirschi do not target physical punishment specifically in their theory, their concern is with sanctions or more specifically effective punishment but not the phenomenal form in which the sanctions or punishments are administered. In their view, 'sanctions [or punishments], it should be recalled, are constellations of pleasures and pains, whatever their source...If we stay with Bentham's complete theory [which is the bedrock on which the general theory is founded] we derive a conception of crime that does not restrict interest to a single type of sanction (1990:8)'.

The use of physical punishment for our purposes therefore makes no claim that spanking measures punishment without error or that the only possible way in which punishment can be administered is through spanking. The use of physical punishment does not also preclude the possibility of the existence of other indicators or forms of punishment. Which indicator of punishment is a more effective measure is, therefore, an open empirical question.

In methodological terms, spanking is a variable but not a constant. A variable, by definition, must encompass a range of values from low to high. Thus, respondents who are low on experiencing physical punishment as children will include those whose parents favoured forms of punishment other than spanking. What this operationalization does, in the classical experimental tradition, is pit those who experienced physical punishment against those who did not. If the effect of physical punishment is overwhelming, it will overshadow the effects of other forms of punishment. When this happens, the structural coefficients representing effect(s) of physical punishment will attain statistical significance; with the implication that those who experienced physical punishment differ significantly from those who did not.

Besides, at the theoretical level, physical punishment or spanking is important for our purposes because it facilitates logical and theoretical interconnections between some of the key theoretical ideas underpinning this research. It constitutes the point at which the intergenerational transmission of violence theory connects with the general theory of crime.[5]

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[5] It can be argued that it is not fair to operationalize spanking as potential cause of self-control since Gottfredson and Hirschi have taken care to reassure readers on pages 99-100 of A General Theory of Crime, in reference to control theories in general, that '...they do not suggest that the major sanctions are legal or corporal. On the contrary, as we have seen, they suggest that disapproval by people one cares about is the most powerful of sanctions ... The criticism of control theories that dwells on

THE INTERGENERATIONAL TRANSMISSION OF VIOLENCE THEORY

Directly opposing the idea of physical punishment as a desirable form of parental discipline are proponents of the Intergenerational Transmission of Violence Theory (Steinmeitz and Straus, 1974; Rosenbaum and O'Leary, 1981; Straus, Gelles, and Steinmeitz, 1980)). This theory is derived from Social Learning Theory (Bandura, 1973, 1977), whose main argument is that human behaviour is to a very large

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their alleged cruelty is therefore simply misguided or ill informed'.

In fact, it could also be argued, based on control theory as well as the intergenerational transmission of violence theory, that physical discipline may impair the teaching of self-control since it undermines the potential for parental attachment (through avoidance by the child) and monitoring as well.

This matter is complicated by the fact that spanking is operationalized in the thesis as the use of physical force against the respondent while the respondent was a teenager. This, it can be argued, neither reflects control theory conceptions of what constitutes spanking nor control theory conceptions of when and how physical punishment might induce conformity.

We have two responses to these concerns. First, spanking might not be the best form of parental discipline. Nevertheless, it constitutes a form of parental discipline and so we leave the directions of the effects of spanking as open empirical questions. Second, as Gottfredson and Hirschi have consistently argued, the best predictor of what a person does in this year is what s/he did last year. Based on this premise, we believe those parents who spank their teenagers do not start when the children are in their teens. They must have started when the children were younger, despite the fact that questionnaire items did not get at this directly. Admittedly, this is a giant leap of faith. Since the best judgement of a construct can be made in reference to construct validity, we, once again, leave the directions and strength of the effects of physical punishment as open empirical questions to be answered by the data.

extent transmitted socially, either deliberately or unintentionally. This is done through behaviourial examples provided by influential models. Modelling influences produce three kinds of effects in observers. First, they acquire new patterns of behaviour through observation. Second, modelling serves to weaken inhibitions of behaviour that observers have learned in the past. Third, The actions of others serve as social prompts that facilitate similar behaviour in others (Bandura, 1973: 68-69).

Extending Social Learning Theory to conjugal violence, Straus (1980; 1991) has argued that the family of origin is one of the most important settings in which violence is learned. It is within the family that most people experience violence for the first time and also establish the emotional meaning and context of violence. All these begin with the experience of physical punishment. He traced the commonalities between his arguments and Cultural Spillover Theory (Baron and Straus, 1987; Baron, Straus, and Jaffe, 1988), the Brutalization Theory of capital punishment (Bowers, 1984; Hawkins, 1989), and the Cultural Legitimation theory of Homicide (Archer and Gartner, 1984). At the core of these theories is the contention that violence in one sphere of life tends to engender violence in others and that this carry over process transcends the bounds between the legitimate and criminal use of force.

When physical punishment is used to discipline children, Straus argues, several consequences should be expected. The obvious and intended consequence is that children learn to avoid what they are being punished for. Three unintended consequences, however, go along with this. The first of these is the association of love with violence. The child learns that it is permissible for those who love you to hit you. Second, using physical punishment to induce acceptable behaviour establishes the moral rightness of violence. The third consequence is that the children learn that when something is really important, it justifies the use of force or violence. In direct contradiction to the propositions deriving from Gottfredson and Hirschi's general theory, the Intergenerational Transmission of Violence Theory leads us to expect that the higher the frequency of physical punishment, the higher will be the level of respondent violence.

A second aspect of the Intergenerational Transmission of Violence Theory focuses on inter-parental violence in the family of origin. O'Leary

(1988:41) has noted, after an extensive review of the literature, that this variable has received more attention than almost any other correlate of spouse abuse. The research results, he continued, have consistently pointed in the direction that observing interparental violence has a magnifying effect on respondent violence. This effect appears to be more pronounced for men than women. The effect is not only direct but also operates through the promotion of aggressive interactional styles.

IS CRIMINAL VIOLENCE INDEED A UNIDIMENSIONAL PHENOMENON?

The theories we have examined so far: Gottfredson and Hirschi's General Theory and the Intergenerational Transmission of Violence Theory, focus attention on the micro-level processes of individual socialization and how they affect violent/criminal behaviour in adulthood. Clearly absent is a concept of social structure and how it influences human behaviour. Beyond that they conceptualize domestic violence as a variant of all other forms of criminal violence. Some feminist scholars[6] disagree with this unidimensional view of crime.

The development of feminist social thought over the last decade or so has drawn attention to the importance of the sexist social structure in the explanation of conjugal violence, especially violence against wives. Feminists place male-female differences at the centre of their analysis and view the social inequality between males and females as the key factor in violence against wives (Stark and Flitchcraft, 1985; Bowker, 1986; Dobash and Dobash, 1979; Pagelow, 1987; Russell, 1982; Stanko, 1985; Yllo, 1988). In their view, the centrality of the male-dominance factor differentiates domestic violence from all other forms of criminal violence. As such, it must be conceptualized, measured, and explained differently from other forms of criminal violence.[7]

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[6] The feminist paradigm is not a monolithic school of thought. In a similar vein, those feminist scholars who have contributed to debate[s] on the etiology of domestic violence do not belong to a variant of the feminist paradigm which can be neatly demarcated. These two factors pose some difficulty in defining precisely what we mean when we use the phrase feminist theorists. For the avoidance of doubt, the phrase FEMINIST THEORISTS/SCHOLARS, as used throughout this thesis, refers only to those feminist scholars whose works we have cited but not to the entire universe of scholarship that can be characterized as feminist.

[7] While it can also be argued that male dominance in the context of domestic violence suggests strong linkages between this type of violence and all other forms of violence that uniquely or

Kurz (1989) has accentuated the points of difference articulated by this school of thought. We provide below a synopsis of the relevant arguments:

1. The conjugal family is not an association of equals but constitutes an important locus of domination and control of women and children by men[8]. As a result, sexism is not 'a' factor but 'the' factor at the root of domestic violence. Stark and Flitchcraft (1985), for example, ruled out the possibility of multiple causation by arguing that given the widespread acceptance of violence as a means of social control, especially of women, it cannot be argued that the violence is transmitted through pathological family patterns. Such conclusions by Gelles and Straus are misleading, they continued, since the vast majority of woman batterers do not come from violent family origins and the vast majority of people with violent childhoods do not become abusive.

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predominantly affect women, the relationship between these different forms of violence remains an open empirical question. As a result, we are in no position to pass judgement on the accuracy of the linkage argument.

[8] This statement suggests a convergence of gender and family in the etiology of domestic violence. At this point we do not have a theoretical or empirical basis for determining which of the two is more fundamental in the etiology of domestic violence.

2. Such phrases as 'family violence', 'domestic violence', and 'conjugal violence' sanitize the violence because they create the false impression of a war of all against all. The perception thus created deflects research and public policy attention from the fact that the violence is principally perpetrated by men and directed at women and children.

3. Men primarily use the violence to exert domination and control over their wives. Violence emanating from women is principally in self defence. Studies reporting such things as equivalence of violence between husbands and wives or the existence of a 'battered husband syndrome' cannot be accurate. Especially problematic, they argue, are data generated by Straus et al.'s Conflict Tactics Scale (CTS) since the scale does not ask what violent acts were in self defense, who initiated the violence, who was injured, or the severity of injury. If these questions were asked the picture would have been clear that it is men who are the perpetrators of the violence while women are the victims.

4. The dominant institutions of society e.g., the police, courts, religious institutions are very

reluctant to view violence against women in the family as criminal violence. This affects the ease with which people engage in it since many people do not consider the domestic violence against women as criminal.

5. At a more fundamental epistemological level, some scholars within the feminist paradigm (e.g. Pagelow, 1979, 1981; Bowker, 1986; Russell, 1982; Stanko, 1985; Stark et al., 1979), have questioned the ability of survey research to measure male-female inequality or, more specifically, male domination and violence against women. They argue that survey questionnaires are not designed to capture the unequal power between husbands and wives. Also, it is argued, questionnaires are designed in such a way that they do not capture the phenomenological meanings subjects attach to the events being measured. Besides, they do not capture the fact that most of the violence in heterosexual conjugal relations are directed against women.

The feminist scholars support their arguments with official crime statistics and clinical data. Analyzing police records from Scotland, Dobash and Dobash (1979) reported that when gender was known, women were targets in 94% and offenders in 3% of the cases. Berk et al. (1983) also found out that in 94%

to 95% of the cases, it is the woman who gets injured. Even when both partners are injured, the woman's injuries are three times as severe as the man's. Data from hospitals (Kurz, 1989; McLeer and Anwar, 1989; Stark et al., 1979) also show women to be the victims and injured parties in the vast majority of cases.

A recent investigator (Brush, 1990) has made the case so forcefully that it is instructive to reproduce her argument in its entire detail. Arguing against data generated by the National Survey of Families and Households (NSFH) conducted in the United States, she wrote:

> The NSFH overcame a serious flaw in earlier research on intimate violence by asking questions that differentiated between violent acts and injurious outcomes. However, because it was designed in part to facilitate replication of earlier results, the violence section of the NSFH reproduced some of the problems of earlier studies, including underestimation of violence rates. Like CTS [Conflict Tactics Scale], the NSFH interview schedule referred to violence only in the context of disagreements, although violent and non-violent abuse may occur without a precipitating disagreement. Similarly, The NSFH included no measure of sexual violence. The NSFH failed to consider the extent to which nonviolent argumentative techniques are used as tools of intimidation and domination in abusive relationships. The questionnaire did not ask about the use of suicide threats or the use of violence to property, pets, children, or other relatives as forms of domination and control. It did not ask about who initiated the violence or consider self defense. Furthermore the NSFH

> survey reproduced the most serious failing of quantitative research on intimate violence because it did not enable researchers to investigate context (other than disagreements) or meanings of violent acts and their outcomes for the perpetrators or survivors of the violence. Thus the NSFH not only precluded a graduated analysis of the severity of violent acts and injuries but also failed to measure gender differences in the consequences (other than injury) and the meanings of intimate violence.
>
> Survey instruments characteristically used to conduct quantitative research on intimate violence have reproduced a bias toward nonfeminist interpretations of power and violence in relationships. The flaws in survey instruments that generate this bias are not limited to the content of the interview questions. The most important barrier to adequate assessments of the extent and dimensions of intimate violence through surveys is the context of the interaction between interviewer and the interviewee. To elicit adequate information about a highly stigmatized, traumatic phenomenon of battering requires infusion of trust, safety, and intimacy into the interviewing relationship. Methods of empirical inquiry used in battered women's shelters, rape crisis centres, consciousness-raising groups, and explicitly feminist research provide models for the transformation in survey methods that would establish new research practices and relationships appropriate to studying violence (Brush, 1990:64-65).

How tenable are these arguments?

The first argument about the relative importance of variables that explain domestic violence is one that can only be satisfactorily resolved empirically. Whether male domination is 'a' factor or 'the' factor explaining domestic violence is one that cannot be settled by definitional fiat. Conclusions on whether theories that explain other forms of violence are capable of explaining domestic violence should come at the end of the long process of empirical inquiry, including independent replications, but not precede it.

Stark and Flitchcraft's argument about the untenability of the intergenerational transmission of violence theory exhibits a fundamental lack of understanding of the distinctions between variables and constants and their relative utility for empirical inquiry. Pointing out that it is not everybody who experienced violence as a child that turns out to be a violent spouse is only an admission that violence in the family of origin is a variable but not a constant (i.e., it has some variance). Meanwhile, the construction of an efficient research design involves the maximization of the variance of the variables of the substantive hypotheses, controlling the variance of unwanted variables that may affect experimental outcomes, and the minimization of error variance (Kerlinger, 1986:284). Maximization of variance in explanatory variables requires that samples include people with and without the characteristic in question. Consequently, what Stark and Flitchcraft see as the weakness in this variable is actually a valuable asset. Because the establishment of relationships between variables involves the investigation of covariations, constants are not useful for empirical inquiry. They covary with nothing and, consequently, explain nothing.

The concern about the preponderance of males as the perpetrators of domestic violence, instead of placing domestic violence in a separate category, puts it in the same boat as all other forms of criminal violence. This is because research on other forms of criminal violence (e.g., Silverman and Kennedy, 1987; 1993 on homicide) has consistently shown that it is males who constitute the majority of the actors.

The question of why husbands and wives engage in violence towards one another in conjugal unions is one that can be explicitly investigated through empirical research. It is inappropriate to foreclose the debate by assigning reasons to the men and women (i.e., the men do it to dominate the women and the women do it in self defense) before the empirical research yields definitive conclusions. Given that most of the aforementioned conclusions derive from data based on non-probability samples (i.e., clinical data and official statistics), the risk of bias is so great that we can, at best, regard them as tentative and use them as starting hypotheses in research based on probability samples. Considering the present state of the art of domestic violence research, it is reasonable to argue that the matter of why people do it is still an open empirical question.

Concerns about the validity or accuracy of Straus and Gelles' Conflict Tactics Scale[CTS], simply put, are concerns about how to define violence. Are acts such as kicking and punching violent only if accompanied by injury? Do they cease to be violent because they occur within the context of disagreements or because someone else started the fight? Do they cease to be violent because all other possible forms of violence have not been measured? The initiation of zero-tolerance policies[9] in political jurisdictions all over North America attests to the fact that the answers to these questiona are not in the affirmative. While it is, indeed, true that injury can result from violence, the questions of whether there is violence and whether the violence results in injury appear to be separate but interrelated issues, both of which are worthy of empirical research attention. Above all, the quality of data is best judged by the extent to which it yields knowledge that is consistent with good theoretical propositions.

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[9] Zero-tolerance is a policy being adopted by police departments all over North America. This policy makes arrest mandatory if domestic violence is called to the attention of the police, irrespective of the level of injury or willingness of the victim to lay charges.

The issues of domestic violence being a non-criminal activity in many political jurisdictions, until recently, and the reluctance of many dominant institutions of society to recognize it as such, in our view, have major consequences for official statistics and clinical data. That is why conclusions deriving from analyses of such data are suspect. This we have already noted. These factors, on the other hand, do not pose major problems for measurement and analyses of survey data based on probability samples [for example, the research we are conducting for this thesis]. Typically, in respectable criminological surveys, respondents are not asked if they have engaged in criminal activities. Such a question will only generate very low response rates. The criminal activites being measured are usually described in morally neutral tones to soften the targets, so to speak. As a result, measuring an activity which most people do not consider morally reprehensible should actually be a boon for survey research. In fact, Gelles and Straus went to great lengths to soften their targets by presenting conflicts and disagreements as 'normal' parts of the lives of most people. They also started with questions/scenarios that are least likely to evoke the suspicions of the respondents.

All the above notwithstanding, the matter of underreporting of violence [measurement error in the dependent variable], especially on the part of males, has been exaggerated. It is, indeed, consequential when we are talking about absolute numbers or computing rates. But when the methodological and theoretical issue becomes the establishment of causal relationships, we move into the arena of regression slopes and the issue of underreporting of violence ceases to be particularly problematic. Let us examine why this is so.

One of the key assumptions underlying the linear regression model, in its numerous variations, is that the error terms of the dependent variable and explanatory variables are uncorrelated [in mathematical form this is typically expressed as $E(XU)=0$] (Bohrnstedt and Carter, 1971:121). To the best of our knowledge, nobody has argued or demonstrated that the factors presumed to be responsible for the underreporting of the violence are correlated with the willingness of respondents to react truthfully to questions dealing with the explanatory variables [e.g,, whether you were spanked as a child or how frequently you drink]. This being the case, this key assumption has not been violated. All we need to do is adjust for an appropriate amount of random measurement error, as we will do in all our models, and we can recover unbiased estimates of effects. As a result, measurement error in the dependent variable, violence, is of less consequence for the inference of causality.

If, on the other hand, there is a constant source of error that induces all respondents to systematically underreport their true scores, the sample means for violence will, indeed, be inaccurate. But in relating violence to some other variable, this error will not appear in either a correlation coefficient or a slope, but merely as a constant **a** in the regression equation **Y=a+bX**. This, again, has no consequence for the magnitude of regression slopes and, for that matter, the inference of causality (Blalock, 1961:145).

With respect to Brush's critique of domestic violence research based on surveys, let us begin by pointing out that many scholars have already documented that scienticism,[10] a scientific ideology which underpins much of the past and current survey research, represents a specific world view (predominantly male) while parading under the banner of scientific objectivity (Weber, 1949; Winch, 1958; Smith, 1987; Harding, 1986). That argument has already been well documented and so we will not spend time re-inventing the wheel. Nevertheless, the assertion that the technology of survey research is incurably biased against the feminist philosophical standpoint is simply wrong. Many decades ago, Weber (1949) pointed out in his authoritative Methodology of the Social Sciences that no scientific research is value-free, despite claims to the contrary. Variables of interest and interpretations of covariations are all guided by specific philosophical and theoretical positions. Unless it can be demonstrated otherwise, there is no reason to believe that rigorous quantitative social scientific research CANNOT be done within the feminist paradigm. The burden of proof lies with whoever argues that this is the case. As we will show later in this research, survey research, in spite of all its its flaws, is capable of lending empirical support to the central arguments within the feminist paradigm.

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[10] Scienticism, an ideology epitomized in the works of such people as Popper (1957; 1972) and Nagel (1961), is a philosophy of science based on the proposition of a fundamental unity in the methods of the natural and social sciences. It is based on a Newtonian world view which postulates a fundamental dissociation between the public and physical worlds, governed by reason, on one hand, and a fringe marginal world to which are relegated such supposedly 'non-rational' materials such as emotional engagements, personal idiosyncrasies, questions of faith, and aesthetic and moral judgements (Donovan, 1988: 3).

Embedded in these claims is an explicit, but sometimes implicit, aversion to the subjective experiences of the knowledgeable human actor. Scientists, it is argued, must approach the raw materials of science, the facts (so to speak), as disinterested observers. The fact of the scientist and his/her subjects as knowledgeable actors with a whole baggage of previous knowledge, biases, and idiosyncrasies is said to be of little relevance (Avakame, 1989).

Pointing out that the latent variable, violence, has been measured with imperfect instruments is to point to the possibility of measurement error. Measurement error is an unfortunate fact of life in all empirical research. It is not unique to quantitative research based on survey data. If anything, most of the data analytic techniques employed by social scientists do not allow for the explicit acknowledgement and modelling of measurement error. On this count, family violence research [including Brush's (1990)], indeed, the vast majority of social science research, is guilty. The issues surrounding the kinds of measurement error envisaged by Brush have been dealt with a few moments earlier and so we will not re-introduce them here.

By indicating the existence of other unmeasured indicators of violence, she is only suggesting that violence can be manifested in several ways. If the argument is that all the said acts are empirical manifestations of violence, then the methodological implication is that they can all be modelled as multiple indicators of a single latent construct. That being the case, the latent construct beomes the explanatory variable that drives its empirical referents. The correlations among the empirical manifestations of violence are spurious once the violent acts can all be traced to a common source. Meanwhile, the presence or absence of a particular indicator does not affect the relationship between other indicators and the common latent construct. As a result, it is not necessary to measure all the empirical manifestations of a latent construct in order to make valid inferences about causality (Bollen and Lennox, 1991).

Besides, there is nothing inherent in survey research that prevents the investigation of context and meaning of particular acts. What is required is the addition of more and probably better questions investigating these issues. As Straus (1992:56) has noted out, '...in actuality, quantitative methods of context are highly developed and widely used under such labels as "interaction effects" and "specification"'. Qualitative methods of social research probably do a better job but do not have monopoly on the investigation of context and meaning of social acts. In fact, the Gelles and Straus' 1985 re-survey has solicited information on some of these questions. What she considers the most important flaw of survey research, social desirability effects [i.e., the possibility of respondents acting up for interviewers], again, only raise concerns about validity and reliability of the data. As we pointed out earier, these problems are not unique to survey research, especially the quantitative variant.[11] As we will find out later in this thesis, the investigation of reliability and validity of indicator variables can be made a explicit part of research that seeks to establish causality.

In sum, the theoretical and methodological complaints against quantitative studies of intimate violence, especially the kinds based on survey research, are not compelling. They certainly present challenges but not insurmountable obstacles to the pursuit of rigorous scientific inquiry. The present research, therefore, has adequate theoretical and methodological justification to proceed.

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[11] See Popper's (1957) The Poverty of Historicism for a solid elaboration of the argument.

To our mind, the most crucial methodological task within the feminist paradigm remains how to model male domination/patriarchy so that it captures both the subjective and objective dimensions as stipulated by Fox (1988). While there has been some difficulty in arriving at a standard definition of patriarchy (see Fox, 1988 for a thorough review of attempts at defining the concept), there is some scholarly consensus on the idea that there are two dimensions of patriarchy, the structural and the ideological and both are central to an adequate understanding of the phenomenon (Martin, 1976; Dobash and Dobash, 1979; Fox, 1988; Yllo and Straus, 1992). The structural element of patriarchy/male domination is manifested in the low status women hold, on average, in all segments of society when compared to men. The ideological component is reflected in the values, beliefs and norms regarding the legitimacy of male dominance in all facets of social life (Yllo and Straus, 1992: 384).

The more intricate problem has been the

operationalization and measurement of the concept. This has been relatively easy at the macro level. Researchers typically employ such aggregate indices as the percentage of women in the labour force, proportion of women in top managerial and administrative positions, proportion of women in higher institutions of learning etc. Examples of research using these indices are Baron and Straus (1989) and Yllo and Straus (1992).

The most enduring difficulties have been at the the micro level. Usually, at this level, we have survey data on peoples attitudes and opinions about what should be the appropriate role of women in society etc. We usually also have information on such variables as level of educational attainment and the kinds of incomes earned by males and females. From the information on respondents' incomes, for example, we can construct indices of income inequality between men and women. As we will find out later in this discussion, we can also construct indicators of power differentials between males and females from micro-level data. Let us shoe how.

At the structural level, it is now axiomatic that, on the average, women earn less money than men, even if we control for level of education and work experience. That is why pay equity has become an issue. Normatively, men are socialized in a manner that leads them to expect deference from females, especially in marital relationships. Also, the normative structure of patriarchal societies presumes the man in a conjugal relationship should command more economic resources than the woman. As a result, the income difference between the man and woman is an ideal measure of how economic resource distribution in the family reflects this norm. Patriarchal societies also presume that, as expected head of the household, the man should have the final say in the making of major decisions within the household. As a measure of how this reflects the norm we can calculate the difference between the individuals' aspirations and reality with regards to decision making power [i.e., the difference between how much decision making power s/he would like to exercise and how much s/he actually gets to exercise] in the household for men and women. What we are trying to get at is a verification of the popular maxim that whoever pays the piper calls the tunes.

Scholars within the feminist paradigm have consistently suggested that it is the income and power disparity between hubands and wives that encourages violence against wives (Dobash and Dobash, 1979; Kurz, 1989). Kurz (1989), for example, citing Dobash and Dobash (1979), has argued that despite the contemporary ideology of spousal equality, marriage still institutionalizes the control of wives by husbands through the structure of husband-wife roles. As long as the husband retains the identity of provider, he has a more important status and, as a result, will control the more important decisions within the family. Under such circumstances, wives become the victims of physical and psychological abuse. The use of violence for control in marital relationships is perpetuated not only through norms about men's rights in marriage but also through women's economic dependence on their husbands. The causal relationships among these constructs, we believe, are shown in Figure 2.2

ECONOMIC-----> DECISION MAKING ---------> RESPONDENT
POWER POWER VIOLENCE

Figure 2.2

The argument can be made that there is more to patriarchy than disjunctions in the economic and decision making power of men and women. This argument is valid but somewhat irrelevant. We are not positing a deterministic relationship between the latent variable, patriarchy, and its empirical referents. A more appropriate question is whether these empirical referents or indicator variables have any relationship with the latent construct. In other words, if we locate a society in which patriarchal social relations are less diluted than ours shall we find bigger income and decision making power differences between men and women? The answer to this question is probably in the affirmative. The relationship between a latent variable and its empirical referents does not need to be perfect in order to lay a claim to having an acceptable indicator. A better test of the quality of indicator variables is whether they manifest construct validity. We are not in a position to assess construct validity until we have actually analyzed the data.

In addition, it might be instructive to emphasize that this postulation does not exhaust the range of arguments that can be made about the relationship between economic power and decision making power. Indeed, as we will soon find out, we postulate three other determinants of decision making power:

respondent self-control, respondent violence, and spousal violence. However, it is worth pointing out, we believe, that this is even a minor issue.

The research objective is not to explain all of the variance in decision making power. We are also not concerned about the entire universe of factors that can explain decision making power. This postulated relationship is based on strong theoretical arguments emanating from feminist scholarship. Unless the suggestion is that the postulated relationship between economic power and decision making power is spurious (i.e., due to a third common factor) the absence of other elements in the universe of possibilities is not fatal to this proposition. Their presence might modify the relationship but it will still stand, at the end of the day, if there exists a structural relationship between the two constructs.

There have been some research efforts in this direction (Allen and Straus, 1980; Straus, Gelles, and Steinmeitz, 1980; Yllo and Straus, 1992; Kalmus and Straus, 1992). The results of these pieces of research lend some support to the hypothesis that income and power differentials between husbands and wives are positively related to physical and psychological abuse of wives. Nevertheless, the contention by Yllo and

Straus (1992:387) that micro-level indicators of marital power are inaccurate because they do not take into account 'the patriarchal social and cultural context, within which marital relationships are played out', in our view, is inaccurate. The normative expectations in which the conjugal family unit is enmeshed and the resultant power relations are largely products of structural and cultural factors beyond the control of the couple. It is these structural and normative factors that define the constraints within which the marital relationship is played out.

THE DEPENDENT VARIABLE: VIOLENCE

A major controversy in family violence theory and research is the definiton and measurement of the dependent variable: **family violence**. The controversy has revolved around a number of problems. Weis (1989) has compiled an instructive overview of these problems and so the discussion, at this point, will concentrate on his perception of the key outstanding issues.

The first major problem is a conceptual one. The principal issue here consists of the question **what is**

family? The traditional definition of family as husband, wife, children and a dog is no longer as clear cut as it used to. Depending on who you ask, this definition is very much in vogue or has become an anachronism. Whatever the case might be, many other family forms are on the ascendancy. These include single parent families, usually headed by females, homosexual families, intergenerational families consisting of grandparents, parents, and their adult children. That is not all.

It is not very clear what criteria differentiate the family from other social units. Usually, it is the nature of the relationship between the victim and the offender. Weis outlined three essential elements that must be present to qualify a relationship as familial. The victim and the offender must share a close kin relationship by virtue of being related by birth or marriage. Second, they must share an intimate relationship in that they know each other in a close personal way. Third, frequently, they must share a common place of residence (Weis, 1989:124). He goes on to ask how we should classify violence occurring among people who share the emotional bonds of familial kin but do not live under the same roof. An alternative scenario is that in which both the victim and the assailant live together but are not emotionally related as kin (Weis, 1989:123-125).

The second major conceptual problem he identified is the **definition of violence.** Very often, he noted, definitions of violence and abuse are confounded by combinations of violent and non-violent behaviour, or behaviours that result in physical and non-physical injury. In his view, conceptual clarity in family violence research will be improved substantially if the focus of inquiry were restricted to violent behaviour and physical injury. This is what Gelles, Straus, and their colleagues have done. The definition of violence that has guided their voluminous research on family violence is any act performed with the perceived or actual intention of **physically** hurting another person constitutes violence. For Weis, behaviour, intent to harm, and injury should be the basic elements that must be present in any definition of violence. As a result, he asserted that the inclusion of such disparate acts as behaviours ranging from shouting, slapping, emotional trauma, verbal threats, spanking, aggressive gestures, intimidation, shoving, forced sex, stabbing, punching, shooting, to burning within the domain of family violence impedes the pursuit of rigorous scientific inquiry (Weis, 1989:125-127).

Weis' arguments, although perceptive, are not always compelling. To assert that there are different forms of families is to suggest that there are possibilities of interactions between types of families and kinds of violence. The present research, for instance, focuses on intact husband and wife families. Whether the dynamics of inter-spousal violence in this type of family is manifested in other family forms is an open empirical issue that can be easily and explicitly investigated with the appropriate data.

Besides, Weis (1989) provided no empirical or theoretical rationale for the belief that overtly violent or aggressive behaviour and physical injury should be the hall marks of any theoretically and empirically useful definition of family violence. This is exactly the kind of theoretical and empirical fractionalization Gottfredson and Hirschi (1990) have argued against. In their view, it is neither theoretically nor empirically useful to distinguish between different acts that are aimed at injuring another person; irrespective of whether the injury or intended injury is physical, emotional, or psychological. Any person capable of one is capable of the others. If this is the case, they can all be modelled as multiple indicators of a single underlying or latent construct (Gottfredson and Hirschi, 1990:4). In spite of this conviction, almost all of the existing research focuses on physical violence. As a result, the empirical relationship between physical and psychological violence, which can be equally debilitating, remains an open empirical question awaiting investigation.

On the basis of the theoretical discussion so far, we can formulate a number of research hypotheses.

RESEARCH HYPOTHESES

1. In consonance with the principles of Gottfredson and Hirschi's (1990) general theory, we predict a positive effect of physical punishment on the level of level of self- control. The general theory posits that those who grow up in families in which there is not only praise for good behaviour but also punishment for noxious behaviour are more likely to develop high levels of self control.

Furthermore, the theory predicts that the level of self-control is inversely related to the propensity to commit crimes. As a result we predict that self control is inversely related to respondent violence. The higher the level of self-control, the lower will be the tendency to be violent towards the spouse, irrespective of the nature of the precipitating circumstances.

2. The intergenerational transmission of violence theory leads us to predictions which are directly contrary to what Gottfredson and Hirschi would want us to believe. According to proponents of this theory, experiencing and/or witnessing violence in the family of origin lowers the inhibition against violence in adulthood. In consonance with this postulate, we predict that the higher the level of physical punishment in the respondents' family of origin, the lower will be the level of self control. The lower the level of self control, the higher will be the propensity to be violent towards the spouse.

3. The intergenerational transmission of violence theory also leads us to predictions about the effects of inter-parental violence on respondent violence in adulthood. Because, the theory postulates that witnessing interparental violence lowers the

inhibitions against the use of violence in marital relationships, we predict that the higher the level of inter-parental violence, the lower will be the level of self control. The lower the level of self control, the higher will be the level of respondent violence towards the spouse.

4. Feminist analyses of inter-spousal violence focus on the unequal economic and decision making power between husbands and wives as the key factor responsible for violence against wives. Feminist analyses are however silent about wife-to-husband violence. The feminist standpoint leads us to expect that the higher the economic power of husbands, the higher will be their decision making power. The higher their decision making power, the higher will be the level of the husbands' violence towards their wives.

There is an alternative hypothesis deriving from ultimate resource theory. This theory suggests that violence is a resource that is invoked when individuals lack other legitimating resources to serve as the basis of their power. According to Goode (1971), a spouse who lacks the prestige, money, or skill necessary to induce the other spouse to peform some behaviour might resort to violence as a final resort, even though the exercise of violence is an illegitimate or negatively sanctioned mode of exercising power (c.f. Allen and Straus, 1980:179-180).

For better or for worse, the normative structure of most patriarchal societies designates men as the breadwinners for their families. If the woman turns out to be the principal income earner the men are usually uncomfortable and so resort to violence if they feel their manhood has been diminished.

Because the overwhelming majority of studies of interspousal violence make no predictions about the causal efficacy of these factors when the violence is originating from the woman, these are left as open empirical questions to be revealed by the data.

In addition to the above, we generate a number of secondary hypotheses:

5. We hypothesize that the level of self-control should positively affect the magnitude of decision making power a person wields in the marital relationship. Money or tangible economic resources are not the only bases of power in any social relationship. Personal characteristics are also

important bases of an individual's power. According to Dahl (1957:201-215), the basis of an actors power consists of all the resources, opportunities, acts objects etc. that can be exploited in order to affect the behaviour of another person.

6. According to Gottfredson and Hirschi, self control not only affects people's behaviour with respect to illegitimate activities. It also affects the chances of success in the conventional world of legitimate activites. Irrespective of the level of social inequality, people with high self controls are more likely to earn more money than those with low self controls. As a result, we would expect high levels of self control to exert a positive influence on economic power.

7. We also expect respondent violence and spousal violence to affect the decision making power configuration in a marital relationship. This is because the violence is the ultimate means of imposing one's view point on the other.

8. Finally, it is now a criminological truism that violence feeds on violence. Mischel (1977:350) has

pointed this out when he noted that, the best single predictor of what one person will do to another is what that other person has done to him/her. If A provokes B, B will reciprocate aggressively. Although a person may tend to respond to one form of aggression with a further form of aggression, he or she may well choose a different form. An important component of the causal model is therefore a reciprocal relationship between respondent violence and spousal violence.

The full conceptual model deriving from our theoretical arguments and the concomitant hypotheses is shown in Figure 2.3.

FIGURE 2.3 ABOUT HERE

THE DATA

The study which generated the data for this project was conducted in 1975 at the University of New Hampshire with a grant from the United States' National Institute of Mental Health (NIMH). The principal investigators were Murray A. Straus and Richard J. Gelles. A total of 2,143 respondents were interviewed in a nationwide probability sample of the United States: 960 males and 1183 females. The interviews were conducted by the firm Response Analysis Incorporated. The purpose of the study was to ascertain methods of conflict resolution within families. Information was gathered regarding the following areas: resolution of conflict between spouses and between parents and children. The data include detailed information on the developments of conflict resulting in violence, resolution of conflicts in the respondents' childhood families, family power structure, marital closeness and stability, as well as personality and stress factors. The data file consists of approximately 481 variables and 450 derived measures for each component.

And now, a few comments about the age of the data. As we have already noted, the survey which generated these data was carried out in 1975 and so the data are quite aged for an analysis in 1993. Under normal circumstances, an 18-year old data set should be cause for concern. In the present case our data are still viable because the theoretical and methodological considerations that underpinned this survey are still actively pursued in the scholarly arena. As we pointed out in the introductory chapter, theoretical and methodological advances in the understanding of domestic violence have been very slow for a variety of reasons. These data are still the best data available for the purpose. Gelles and Straus carried out a re-survey in 1985 but that research had a different focus from the 1975 survey. The 1975 survey was primarily focused, among other things, on the causes of domestic violence while the 1985 survey was mainly about the consequences of domestic violence. Recall that one of our research objectives is the resolution of key theoretical and methodological controversies in domestic violence theory and research.

That the data were collected in the United States about two decades ago while the present research is being carried out in Canada begs some sort of assessment of structural context. Would the data reveal different patterns if the survey were carried out in Canada today? We are unable to provide definitive answers to this question given the significant controversies that exist concerning the differences/similarities between Canada and the United States. We prefer to leave this as an open empirical question.

SELECTION OF INDICATOR VARIABLES

THE DEPENDENT VARIABLE: RESPONDENT VIOLENCE

The chief instrument that has been used to measure violence against spouses in family violence research is the Conflict Tactics Scale (CTS). It is a measuring instrument consisting of a list of actions which a family member might take in a conflict with another member. The component items in the instrument start with those of low coerciveness and gradually become more coercive and aggressive toward the end of the list. The instrument asks for the number of times each action occurred in the past year. The response categories range from 'Never' to 'More than twenty times'. The complete measuring instrument is shown in Figure 2.4.

FIGURE 2.4 ABOUT HERE

In the 1975 survey, approximately sixty-five percent of the respondents completed the Conflict Tactics Scale.

In order to ascertain the relationship between the variables composing the CTS, the items included in the scale were factor analyzed by Straus (1992). The factor structure showed three different dimensions of family violence, namely:

i. the use of rational discussion, argument, and reasoning - an intellectual approach to the dispute;

ii. the use of verbal and non-verbal acts which symbolically hurt the other person or the use of threats to hurt the other; and

iii. the use of physical force against another person as a means of resolving the conflict (Straus, 1992).

Nevertheless, most of the existing research has focused on the physical dimension of violence. The indicators measuring physical violence are usually summed up in an additive scale and used as a measure of the dependent variable: violence. The relationship between these indicators themselves, or the relationship between the indicators of physical violence and indicators of other dimensions of violence are seldom made an explicit part of research.

A major problem with factor analyses is the assumption that each of the measured variables is caused by one or more of the underlying factors but not by any of the remaining measured variables. As a result, it is expected that after all the factors have been 'extracted' the residual partial correlations among the variables being factor analyzed should be zero or near zero in order that their magnitudes can be attributed to sampling error. The factor analytic method is rendered meaningless if some of the measured variables are also caused by certain of the remaining variables (Blalock, 1961:167-169).

The scenario in the concluding statement of the preceding paragraph is a very high possibility when we take a closer look at the component elements of the Conflict Tactics Scale. For example, the inability to think clearly and marshal sound arguments in support of one's view point could result in the use of psychological or physical violence to coerce the other person into acquiescence. Similarly, the error variances of these indicator variables can covary significantly. There is therefore very good reason to expect significant intercorrelations among the elements of the Conflict Tactics Scale even after any underlying factors have been 'extracted'. Besides, the regression, correlational, and contingency table methods of analysis which family violence researchers have mainly used do not even allow for the modelling of this possibility. As a result, the relationships between the various measures comprising the Conflict Tactics Scale remains an open empirical issue awaiting investigation.

To recapitulate, the Conflict Tactics Scale, which measures the dependent variable, consists of nineteen items or variables. Nevertheless, there are three theoretical dimensions underlying these nineteen variables. Obviously, it is impractical to have one latent variable with nineteen indicator variables. As indicated earlier, it is not even necessary. Bollen and Lennox (1991:308) have demonstrated that the notion that a narrow set of indicator items undermines construct validity is false. Unless each of the original indicator variables represents a distinct facet of a latent construct, we should not face dire methodological consequences by removing some of them. Removing them has no impact on the correlation of the other indicators with the latent variable or their correlations with one another (1991:308). I agree.

According to Gottfredson and Hirschi (1990:66), the traditional criminological preoccupation with the various phenomenal forms in which crime is manifested is unproductive since it stems from the belief that different forms of crime have different etiological foundations. Such a belief, they argue, has no factual basis. For them, while the phenomenal forms in which crime manifested may be different, the similarities between them are stronger than we think since there is a common underlying element in all crime. This common element is that all activities that fall under the rubric of crime spring from a common underlying personality trait, what they call criminality.

In the context of domestic violence theorizing and research, they would argue that any distinction between physical and psychological violence is deceptive. They are all empirical manifestations of a personality trait: criminality which in turn springs from what they call low self-control. They wrote:

> '...if aggression means anything, then highly aggressive people should be more likely to attack that to withdraw, more likely to use force than to use stealth, more likely to be active than to be passive, more likely to be bold than to be timid. But criminality does not connote activity any more than it connotes passivity, fraud, and deceit. Criminality is all these things at once. Criminality can thus absorb a concept of "aggression", but a concept of aggression that is synonymous with "a tendency to commit criminal acts" is practically meaningless' (Gottredson and Hirschi, 1990:60).

This view directly confronts Weis' (1989:125-127) conviction that the inclusion of such disparate acts ranging from shouting, slapping, emotional trauma, verbal threats, spanking, aggressive gestures, intimidation, shoving, forced sex, stabbing, punching, shooting, to burning within the domain of family violence actually impedes the pursuit of rigorous scientific inquiry.

To test the veracity of these arguments we built an initial model [similar to that depicted in Figure 2.6 except with four indicators each for both males' and females' violence] which had measures of both physical and psychological violence as multiple indicators of the latent construct: violence.

Principles of construct validity, in the context of structural equation models (Bollen, 1989:188), demand that multiple indicators of a latent variable must not only correlate highly among themselves. They must also covary in a coordinated fashion with all other correlates of the latent construct. Our multiple indicator variable, violence, failed to accomplish this feat. The chi-square statistic and other model diagnostics[12] pointed to the multiple indicators of the latent variable violence as the source of the failure of the model. We, therefore, backed off from Gottfredson and Hirschi's specification because the preliminary model failed. With the failure of this specification, we abandoned the hope of both psychological and physical violence sharing a common conceptual space. We now have some indication that physical and psychological violence are distinct phenomena with distinct causes. Weis (1989) is partly vindicated.

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[12] The standardized [normalized] residuals revealed that the multiple indicators of respondent and spousal violence do not covary systematically with each other. Without this systematic covariation, the multiple indicator constructs will not function as specified. The physical violence indicators for respondent violence covary only with their counterparts under spousal violence. The same was true for indicators of psychological violence.

Following this, we specified psychological and physical violence as distinct phenomena whose etiological foundations warrant separate investigations. In separate chapters, therefore, we test the efficacy of the model in explaining physical and psychological violence. The measurement structure of the dependent variable, VIOLENCE, is shown in Figure 2.5.[13]

FIGURE 2.5 ABOUT HERE

INTERVENING VARIABLES

1. Spousal Violence

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[13] In the dissertation proposal, we specified three indicators each of psychological and physical violence. But with the addition of four instrumental variables to improve the identification status of the model, it became too large and unweildy. Consequently, we decided to remove one indicator each of both physical and psychological violence. This, however, is of no consequence for the inference of causality (See Bollen and Lennox, 1991).

The arguments underlying the construction of the dependent variable, respondent violence, and its indicators are salient for spousal violence since it was measured using the same Conflict Tactics Scale. As a result, the latent construct, spousal violence, and its indicator variables, are as shown in Figure 2.5. The only difference here is that the violence is from spouse to respondent e.g., SSLAP for spouse slap, SKICK for spouse kicks... etc.

2. **Self Control**

According to Gottfredson and Hirschi (1990:89), a key characteristic of people with low self control is that they lack the tenacity of purpose and the ability to defer gratification: essential ingredients in any successful pursuit of long term goals. They are also more likey to engage in excessive use of alcohol and other intoxicants. This latent construct is therefore measured by two indicator variables: Among other things, the respondents were asked:

> *'For each of the following statements, please indicate how often it is true of you,*
>
> *Ambitious, works hard, and has high standards...(ACHIEVER)*
>
> *Gets drunk ....(DRUNK)*

The responses ranged from 1=Never to 6=Almost always.

These are modelled as two separate dimensions of self control.

3. **Marital Power**

The magnitude of power an individual wields in a marital relationship can be measured as the disjunction between the amount of decision making power a respondent wields and the amount of power he/she would like to exercise. The respondents were asked:

> *'Every family has decisions to make --such as where to live, whether or not to buy a car, and so on. We would like to find out how you and your (husband/partner) make some of these kinds of decisions:*
> *Let us start with buying a car. Who do you think should have the final say on buying a car*
>
> *1. Buying a car.......*
> *2. Having children......**(BABY)***
> *3. What house or apartment to take.......*
> *4. What job your (husband/partner) should take*
> *5. Whether you should go to work or quit work.....**(WORK)***
> *6. How much money to spend on food per week.....*

The response categories were:

> *1=Wife only*
> *2=Wife more*
> *3=Husband and wife same*
> *4=Husband more*
> *5=Husband only*
> *X=Don't know.*

Using the same questions and response categories responses were solicited for respondent opinion, husband/partner opinion, as well as who has the final say. Two of the scenarios are chosen: changing occupations and having children. For each of these the respondent opinion is subtracted from who in fact has final say. The differences are used as two indicators of the latent construct - marital power.[14]

4. **Economic Power**

The economic power of the respondent is operationalized as the difference between his/her income and that of the spouse. This variable is obtained by subtracting spousal income from respondent income **(MONEY)**.

EXOGENOUS VARIABLES

1. **Physical Punishment**

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[14] Marital power is being measured as the disjunction between the amount of decision making power a respondent has and how much s/he would like to have. In every social collectivity, the most powerful people are those who can get their wishes and decisions implemented by brute force and/or by making them appear as if they are in the common interest. As result, the smaller this disjuction is the more powerful you are. Conversely, the bigger this disjunction, the less powerful you are. This variable is, therefore, counterintuitive: small values mean lots of power and large values mean little power.

There are two dimensions of physical punishment: that from father and that from mother. They are modelled separately because they are expected to have different consequences depending on whether the respondent is male or female. Social learning theory has emphasized similarity of model to the observer as an important variable affecting the adoption of a model's behaviour by the actor.

The respondents were asked:

a. *'...thinking about when you were a teenager, about how often would you say your (mother/stepmother) used physical punishment, like slapping or hitting you? Think about the year in which it happened most'* ***(MOMSPANK)***

b. *'How about your (father/stepfather)? Again thinking of the year in which it happened the most, how often would you say he used physical punishment in the course of the year?'* ***(DADSPANK)***

For both questions, the response categories ranged from 0=Never to 6=More than 20 times.

2. **Inter-parental Violence**

This variable is very similar to physical punishment in its logical deduction and hypothesized effects. The only difference here is that the violence is from parent to parent rather than from parent to child. As a result, we model the paternal and maternal dimensions separately. The respondents were asked:

'Now thinking about the whole time when you were a teenager, were there occasions when your (father/stepfather) hit your mother or threw something at her?' ***(DADHIT)***

They were also asked:

'What about your (mother/stepmother): Were there occasions when that happened when you were a teenager? ***(MOMHIT)***

The response categories for both questions also range from 0=Never to 6=More than 20 times.

ANALYTIC METHOD

The data analytic method being used for this research is LISREL. LISREL is a statistical model for analyzing linear structural relationships among quantitative variables (Sorbom and Joreskorg, 1981:179). The LISREL method estimates unknown coefficients in a set of linear structual equations. It assumes that there is a causal structure among a set of latent variables, and that the observed variables are symptons or indicators of the latent variables (Joreskorg and Sorbom, 1988:2). In addition, LISREL integrates measurement concerns with structural equation modelling. It does so by allowing the incorporation of both theoretical concepts and observed indicator variables into a single structural equation model

(Hayduk, 1987:88).

Unlike regression and correlational analysis, LISREL allows the researcher to acknowledge that both dependent or endogenous and independent or exogenous variables may be subject to measurement errors, and these errors may be correlated both within and between these sets of observed variables. If the model is identified, the program provides estimates of: the unknown coefficients of the structural equations, covariance matrices of the residuals and measurement errors, standard errors of all estimated quantities, as well as chi-square tests of the fit of the model and of the structural hypotheses within the model (Sorbom and Joreskorg, 1981:179-180).

THE IDENTIFICATION PROBLEM

The specification of reciprocal effects in the model makes it non-recursive. As, it stands, the model is non-identified. 'Non-identification is the same thing as insufficient information, not in the sense that the sample size is too small, but in the sense that the model must be more tightly specified or more variables must be added in the model to make the parameters uniquely defined' (Joreskorg and Sorbom, 1988:17).

Four additional variables are added to the model and specified to uniquely affect only respondent and spousal violence. Two variables, **PREFERENCE FOR DISCUSSION** and **SPANKING OF CHILDREN** were specified to affect spousal violence. The theoretical rationale underlying these specifications is that people who prefer discussions as a mode of conflict resolution are less likely to resort to physical violence. Furthermore, as discussed earlier in this chapter, the cultural spill-over theory of violence as well as Gottfredson and Hirschi's general theory postulate that those who consider the use of physical violence in punishing their children as legitimate and desirable will consider it somewhat legitimate to use violence against their spouses.

In addition, **RESPONDENT INCOME** and **SPANKING OF CHILDREN** are specified to uniquely affect respondent violence. Respondent use of spanking is again based on the cultural spill over of violence theory of violence and also Gottfredson and Hirschi's general theory which argue that those who use violence in one sphere of life are likely to use it in others. Spanking involves the use of violence in punishment of children. We therefore expect those who do it to be more likely to hit their spouses.

With respect to respondent income, the specification is based on the criminological axiom that there is a positive relationship between criminal violence and poverty. With this solution to the identification problem, we are now in a position to estimate the structural equation model and draw substantive conlusions. The full empirical model to be estimated is shown in Figure 2.6.

FIGURE 2.6 ABOUT HERE

How well does our model explain physical violence? For an answer to this question let us now turn to Chapter Three.

CHAPTER 3: EXPLAINING PHYSICAL VIOLENCE

In this chapter we report how well the conceptual and empirical models developed in Chapter Two explain physical violence between spouses. Violence is a phenomenon that interacts with gender (i.e., varies depending whether a person is male or female). While the overwhelming majority of the previous research is based on the premise that males are the perpetrators while women are the victims, some recent theoretical and empirical controversy has been generated by an alleged existence of a 'battered husband syndrome' (Steinmetz, 1978; Pagelow, 1979; Straus, 1990, 1992; Sommer, Barnes, and Murray, 1991). This demands that the analysis be disaggregated by sex to explore the hypothesized violence-gender interactions.

Hayduk (1987:278) has observed that building two completely separate models would not allow for the fact that there are effects that are expected to be the same in the two groups. For instance, respondents in the male half of the model should be spouses in the female half. The converse should be true for the female half. This specifically demands that respondent-to-spouse violence in the male half should be the same as spouse-to-respondent violence in the female half. The solution lies in stacking the male and female halves in a single LISREL run so we can enter the desired constraints between the males and females and estimate the model[s] simultaneously with those constraints in effect.

Because this analysis is focused on explaining inter-spousal violence, we selected only respondents who were in a marital or common law relationship at the time of the survey. Listwise deletion of cases with missing data left a sample size of 332 for males and 300 for females. These were the sample sizes used for this analysis. The variances, covariances and means of the indicator variables for both male and female portions of the model are shown in Tables 3.1 and 3.2 respectively. At this point, a few comments about means are in order.

Comparing the means of males and females reports of their own violence against the spouse, women tended to report for more violence [0.235 for slapping and 0.113 for kicking] when compared to the men [0.148 for slapping and 0.084 for kicking. It is this factor that has led to charges of underreporting of violence by males since the idea of females being more violent than males appears to defy conventional wisdom. Males reported being spanked more frequently [3.730 for DADSPANK and 4.178 for MOMSPANK] than females [1.899 for DADSPANK and 3.817 for MOMSPANK]. Nevertheless, the mean reports of parents' violence against each other were almost identical. The numbers for females were 0.874 for DADHIT and 0.537 for MOMHIT while the male numbers were 0.835 for DADHIT and 0.491 for MOMHIT.

MEASUREMENT STRUCTURE (MALES)

With the exception of violence (both respondents' and spousal) and decision making power, all the latent variables in the model(s) have single indicator variables which have been scaled to operate exactly in the same way as the latent variables. In LISREL parlance, this means that the lambda values have been fixed at 1.0.[15] The only outstanding question then becomes how much error (both measurement and systematic) is encapsulated in our indicator variables.

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[15] Fixing lambda values at 1.0 is not a statement about measurement quality. This only ensures that the latent concepts/variables operate on the same scale(s) as the corresponding observed indicators. These lambda coefficients should, therefore, be interpreted as structural coefficients linking unit changes in the latent concepts to unit changes in the corresponding observed indicator variables (Hayduk, 1987:118).

In response to concerns about the reliability of the measures of physical violence, we specified an initial level of 20% measurement error in indicators of males' violence and 10% in the indicators measuring females' violence. Subsequent analyses[16] revealed that these levels of measurement error, in large measure, were too high; an indication that the indicator variables are more accurate measures of violence than the conventional wisdom suggests. The levels of measurement error were subsequently reduced to approximately 5% for the indicators of both males' and females' violence. On the whole, we discovered no radical differences in measurement error in the male and female halves of the model. That we obtained models which fit the data with these revised levels of measurement error in place is suggestion that our revised error variance estimates were not too far off the mark.[17]

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[16] When we estimated the model[s] with the original fixed coefficients in place, we discovered that the R-squares of these variables were negative. This suggested to us that our fixed error variance estimates were too large. We, however, hasten to add negative R-squares do not always imply this, especially when dealing with variables embedded in loops.

Turning to the measurement structure of the latent variables with multiple indicators, respondent and spousal violence are linked by 1.0 lambda values to KICK and SKICK respectively with the validity indices of both SLAP and SSLAP left to be revealed by the data. The latent variable, MARITAL POWER, has a 1.0 scaling to the indicator variable BABY, while the validity index of the indicator variable WORK was also left to be uncovered by the data. The reliability indices[18] for our indicator variables are shown in the column entitled THETA EPSILON in Tables 3.3 and 3.4

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[17] To demonstrate that our parameter estimates are not prisoners of the estimated levels of error in the indicator variables, each of the fixed error variances in the indicator variables was individually divided by two and subsequently multiplied by two, and the models were re-estimated, after each of these operations, to see if these changes will trigger significant changes in the relevant parameter estimates. We found no such significant departures from the parameter estimates we are reporting.

[18] Reliability is that part of a measure that is free of purely random error (Bollen, 1989:207). Specifying the amount of error variance in our indicator variables, much like r-squared in regression analysis, gives us a picture of how much of our measures are free from purely random error. Although questions of validity and reliability cannot be answered with one hundred percent certainty, we can, at the very least, provide evidence in support of measurement quality. Obtaining a model that ultimately fits the data with our fixed validity and reliability indices still in place supports our judgements about measurement quality. It also brings us closer to confirming the validity of our concepts since the concepts, as specified through our decisions regarding error variances, will have shown that they operate in exactly the manner required for the establishment of construct validity (Hayduk, 1987:123).

respectively.

We estimated the stacked structural equation models for both males and females as shown by the solid lines in Figure 2.6. The LISREL maximum likelihood estimation procedure yielded results which were unacceptable. The models exhibited a large and statistically significant chi-square. This is an indication that the covariance structure implied by our model(s) differed substantially from the data covariance.[19] Inspection of the standardized residual matrices, modification indices, and other model diagnostics showed that additional unanticipated effects (parameters) were required to obtain models whose implications were in accord with the data. These data-driven modifications[20] are shown by the broken arrows in Figures 3.1 and 3.2 respectively. These modifications provided models with an acceptable fit (chi-square=181.83, degrees of freedom= 152, probability level=0.050, goodness of fit index= 0.965). These goodness of fit indices show that we have models which are not significantly different from the data. We are now in a position to draw substantive conclusions from the data. The LISREL maximum likelihood parameter estimates (unstandardized) of our models are shown in Tables 3.3 and 3.4

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[19] The goal of the LISREL estimation procedure is to obtain measures of the model coefficients which imply a covariance matrix that is not significantly different from the observed data covariances. A statistically significant model chi-square indicates that even the most judicious allocation of coefficients comprising the model are unable to provide a close match to the observed covariances. Until the model diagnostics (specifically the goodness of fit indices) tell us that we have a model which is not significantly different from the data, we will not be in a position to begin drawing substantive conclusions from the analysis.

[20] Theoretical and methodological purists might blush at the idea of **'data-driven modifications'** (See, for example, MacCallum, Roznowski, and Necowitz, 1992; Fornell and Yi, 1992a, 1992b) Unfortunately, despite our best theoretical efforts, human beings do not always behave the way we believe or expect them to. If their behaviour defies our theories, predictions, and expectations, we have no choice but to go back and re-examine our theoretical and

FIGURE 3.1 ABOUT HERE

FIGURE 3.2 ABOUT HERE

TABLE 3.1 ABOUT HERE

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ideological presuppositions. This is why science must advance through the interplay between theory and data. Theory dictates the hypothesis with which the researcher confronts data. The data then tell the researcher if the empirical world behaves the way s/he thinks. Based on this dialogue, theory is modified and knowledge advances. The important question, I believe, is therefore not whether the insertion of a specific causal arrow into a model was theoretically specified prior to the initial model estimation but whether the causal statement it implies makes sense from the substantive point of view.

TABLE 3.2 ABOUT HERE

TABLE 3.3 ABOUT HERE

TABLE 3.4 ABOUT HERE

RESULTS (MALES)

We commence presentation of our results with a discussion of the measurement portion of the male section of the physical violence model. The measurement structure we specified worked quite well. The multiple indicators for both respondent and spousal violence worked as specified. This is evidence that they belong to common conceptual domains. Nevertheless, the data sprang a number of surprises. The spouses' report of kicking their husbands (SKICK) was not only a report of female violence towards the men. It was also an measure of how frequently the women resorted to physical punishment of their own children (lambda=-0.019; t=-3.009). Secondly, female spouses' report of kicking their spouses (SKICK) was also a measure of male respondents' violence (i.e., not only what they do to their husbands but what the husbands also do to them (lambda=1.149; t=13.085). Third, when male respondents agreed that they did kick their wives (RKICK), they were not only reporting their own violence. This indicator also served a significant indicator of their own marital power (lambda=-0.154; t=-2.917); a confirmation of the feminists' contention there is a power dimension embedded in husbands' violence towards their wives. Finally, the multiple indicators of marital power did not work as specified. The validity index of the second indicator of marital power, WORK, failed to attain statistical significance (lambda=0.104; t=1.179). Apparently, for men, decisions about quitting work and having a baby do not belong to the same conceptual domain (i.e., they are not measuring the same latent concept).

Having discussed the measurement structure, let us now discuss the results of tests of our substantive hypotheses. The presentation follows the order in which the hypotheses were generated.

HYPOTHESIS #1

(a.) Contrary to predictions derived from Gottfredson and Hirschi's general theory, physical punishment did not have a statistically significant effect on any of the self-control variables. It is, however, instructive to point out that in spite of statistical insignificance of the relevant structural coefficients, the direction of three out of the four structural coefficients point to validity of our constructs. The general theory argues that people who are disciplined in childhood should demonstrate a reduced proclivity to alcohol. They did. As expected, physical punishment by both fathers and mothers of the respondents did exhibit a negative relationship to alcohol use (b=-.008, t=-0.905 and b=-009, t=-1.022 respectively). The theory also demands that parental discipline should demonstrate a positive relationship to achievement motivation. Physical punishment from mother did (b=0.001, t=0.100). Physical punishment from father, however, displayed a negative relationship with aspirations (b=-0.002; t=-0.208).

(b.) In a similar vein, both self-control variables, alcohol and achievement motivation, did not display a statistically significant relationship with male respondents' violence. Again, it is worthy to note that one of these insignificant structural coefficients, that of alcohol, displayed an effect which was in the predicted direction (b=0.017; t=0.369). Given the evidence in support of construct validity, the inability of Gottfredson and Hirschi's general theory to explain male physical violence cannot be blamed on the use of poor indicators or specification error(s).

HYPOTHESIS #2

The statistically insignificant effects reported for hypothesis #1 do not augur well for the health of the inter-generational transmission of violence theory. There is no evidence that being spanked as a child has any direct or indirect effects (i.e., through the self-control variables) on male violence against wives. In fact, the directions of the insignificant effects do not even support the basic tenets of this aspect of the inter-generational transmission of violence theory.

HYPOTHESIS #3

Witnessing inter-parental violence initiated by either fathers or mothers did not have any significant effect on any of the self-control variables. However, the data revealed a partial direct social learning effect. Witnessing the fathers hit the mothers exerted a direct positive influence on the probability of men hitting their wives (b=0.032; t=2.360).

HYPOTHESIS #4

Among other things, feminist scholars have held the income disparity between men and women as a key structural factor responsible for the power differential between husbands and wives in conjugal relationships. This power differential is said to translate into the husbands' ability to act violently towards their wives.

The data offer support only for the hypothesis linking decision making power with respondent violence. Income differential or economic power had no significant effect on males' decision making power. The failure of the data to support this hypothesis is, again, not a function of construct invalidity. The theory underpinning this hypothesis demands that the bigger the spread between husbands' and wives' incomes in favour of the man, the bigger should be his decision making power.[21] The direction of the insignificant effect does indeed confirm the potency of our construct. Although insignificant, the structural coefficient linking these two variables is negative. This, at least, supports the presupposition that the bigger the income differential in favour of the man, the more power he will have (i.e., the smaller will be the disjunction between his aspirations and what actually happens when it comes to decision making power in the household.

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[21] Recall that decision making power is operationalized as the disjunction between aspirations and reality with respect to how key decisions are made in the household. This was based on the supposition that those with most power should experience the smallest disjunction.

Regardless, decision making power exerted a statistically significant effect on male violence. There were two hypotheses on the structural relationship between male decision making power and their propensity to be physically violent towards their wives. Some feminist scholars e.g., Dobash and Dobash have postulated that the stronger the decision making power of the man vis-a-vis the wife, the higher will be his propensity to use violence against her. Contrary to this, the ultimate resource theory leads to the prediction that the less powerful the men, the more violent the are likely to become since violence is the 'ultimate resource' for imposing their viewpoint[s] on their wives if they cannot argue their viewpoint(s) persuasively.

The ultimate violence theory was supported by the data. The less powerful the man, the more likely he was to use physical violence on the wife ($b=0.315$, $t=3.722$). Males' decision making power had no statistically significant effect on spousal (female) violence.

HYPOTHESIS #5

We hypothesized that the level of self-control should affect the level of decision making power in the household since, independent of how much money one has, personal characteristics should affect how many decisions one gets to make. This hypothesis was also disconfirmed for the men. While the effect of alcohol was outright insignificant, the effect from achievement motivation was not quite significant (b=0.047; t=1.485). We would, therefore, conclude that that both of the self-control variables exerted no statistically significant effects on the decision making power of men.

HYPOTHESIS #6

The reverse situation occurred when self-control was explaining economic power. Consistent with our prediction, as the frequency of indulgence in alcohol increased, economic power decreased (b=-0.420; t=-2.285). On the other hand, male achievement motivation had no effect on their economic power. Although we did not predict this in advance, it is not surprising that the most potent factor determining the men's economic power was their reported income (b=1.218; t=22.193).

HYPOTHESIS #7

The hypothesis of both respondent and spousal violence operating to affect decision making power in the household could not be tested because we could not obtain estimates of these coefficients. When these effects were entered into the model, it failed. The iterations did not converge. The model could not even be salvaged when the forward effects were fixed while the reverse effects were freed.

HYPOTHESIS #8

In view of the recent theoretical and ideological controversies surrounding the issue of reciprocity of violence between husbands and wives (Hayduk and Avakame, 1992; Steinmetz, 1977; Straus, Gelles, and Steinmetz, 1980; Sommer, Barnes, and Murray, 1992; Straus, 1990; Straus, 1992), an important component of our model(s) is the specification of a reciprocal causal relationship between respondent violence and spousal violence. We hypothesized that physical violence is not only a husband-to-wife phenomenon. It also flows from wife-to-husband. This reciprocity hypothesis was not supported by the data.

As feminist scholars (e.g., Dobash and Dobash, 1979; Brush, 1990) have argued and evidence from battered women shelters show, physical violence in conjugal relationships is predominantly a males' phenomenon with women at the receiving end. Females' violence is usually a response to males' violence. The effect of male violence on their spouses' was strong, positive, and statistically significant. (b=0.883; t=5.824). On the other hand, the effect from females to males was statistically insignificant (b=-0.012, t=-0.616) [i.e., not significantly different from zero]. The structural coefficient representing the strength of male-on-female violence indicates that nearly every additional time the husband is physically violent towards the wife, he causes the wife to engage in an additional act of physical violence towards the husband while the wives' violence does not elicit violent responses from the husbands. As research by Walker (1984) and Browne (1987) have shown, the women's violence was very likely in self-defence. The present research, because of data limitations, is unable to make definitive statements about this.

UNANTICIPATED EFFECTS

Despite the mixed fortunes of the alcohol variable reported above, it displayed an astonishing effect on spouses use of violence. Male alcoholism displayed a positive effect on females' violence towards their husbands (b=0.435; t=5.261) and also increased females' use of physical punishment on their children (b=0.608; t=1.666).

ERROR AND EXOGENOUS VARIABLES' COVARIANCES

Apart fron the covariances among the exogenous variables, there were significant error covariances among some of the endogenous concepts. Specifically there occured significant error covariances between the error terms between the wives' use of physical punishment and husbands economic power (r=0.170). There was also a significant covariance (theta epsilon) between the error terms of the indicator variables SKICK and DADHIT (r=0.643).

Hayduk et al. (1992) point out that every error covariance is an indication that there is some systematic specific linkage between the error variables to which they are attached. As a result each error covariance specifically demonstrates that other, as yet unnamed, variables are operating to produce variations in the variables to which the errors are attached, as well as consistencies between the values of those variables. In this case it means there is a significant correlation between wives' use of physical punishment and husband's economic power but that correlation remains unanalyzed in this research. Having surveyed the findings of the male-half of the model, let us now turn to the results from the female-half of the analysis.

FEMALES

As pointed out in the previous chapter, the conjugal violence literature is overwhelmingly premised on the idea that men are the perpetrators and women are the victims. When violence is reported on the part of women, it is usually considered to be in self defence (e.g., Browne, 1986) and therefore not requiring any further explanation. In spite of this, men's rights groups and some of the existing research have reported female violence to be a serious social problem worthy of scholarly attention. But because of the limited scholarship challenging the idea of females-as-victims, the area is literally an 'intellectual blackhole' awaiting scholarly illumination.

However, the 'conventional' criminological literature leads us to suspect that both criminal and non-criminal violence are phenomena that interact with gender. This explains the disaggregation of the model by sex. Beyond this, there are virtually no scholarly signposts to guide our excursion into this unexplored territory. At the very least, the conceptual and empirical models we have developed to explain male violence can serve as useful starting points for theoretical and empirical inquiry. It is on this basis that we proceed to examine how well the model(s) we have developed explain female violence. Let us keep in mind, though, that in this section of the discussion the females (wives) are the respondents while the males (husbands) constitute the spouses. With the exception of this switch, coupled with some variations in the reliability of the indicator variables, the basic empirical model remains what we have specified in Figure 2.6.

MEASUREMENT STRUCTURE (FEMALES)

In this female half of the model, the measurement structure worked exactly as specified. It sprang no surprises. The multiple indicators of all three latent concepts - respondent violence, spousal violence, and decision making power - worked as specified. There is an important point of difference though; in this female half of the model, decision making with respect to quitting work and having an additional baby belonged to the same conceptual domain. The public-private dichotomy which is very much in evidence in the male world-view is not evident here.[22] Having talked about the measurement structure of the female half of the model, let us, once again, turn to a discussion of how well it has done in explaining female violence.

RESULTS (FEMALES)

HYPOTHESIS #1

Gottfredson and Hirschi's general theory does not make a conceptual distinction between the effects of parental discipline on males and females. Basing our prognosis on this theory we should expect little or no gender differences in its predictions. As we saw in the case of men, physical punishment exerted no statistically significant influence on any of the self-control variables. In a similar vein, only one of the self-control variables, alcohol, showed a violence amplification effect for the females (b=0.093, t=2.316).

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[22] In this dichotomy, women are supposed to be caring and nurturing in the private sphere (a fancy synonym for the home) while men are supposed to be achievement-oriented in the public arena (See Turkel, 1988 for an elaboration).

HYPOTHESIS #2

Because of the statistical insignificance of the physical punishment variables, the first aspect of the inter-generational transmission of violence theory has, again, been disconfirmed. Our data do not lend credence to the belief that spanking in childhood produces violent adults. In fact, spanking exerted no direct or indirect influences on females' propensity to use physical violence on their husbands.

HYPOTHESIS #3

The second aspect of the inter-generational transmission of violence theory leads us to the prediction that witnessing violence between parents has a social learning influence in adulthood. As we saw in the case of physical punishment, witnessing inter-parental violence as a child had no influence on respondent aspirations. Watching the fathers hit the mothers also did not exert any influence on alcohol use. Nevertheless, it had a slight direct magnifyning influence on female violence, independent of the self-control variables (b=0.029; t=2.960). Watching mothers hit fathers' did also exert a scanty influence on alcohol use(b=0.059; t=2.717). The social learning argument about the salience of similarity of model to observer appears to be in operation here.

HYPOTHESIS #4

Just as we saw in the case of males, females' decision making power was independent of their economic power. In a similar vein, thr females' decision making power did not affect their own violence.

HYPOTHESIS #5

The hypothesis here is that self-control variables should positively affect the magnitude of decision making power wielded by a person. This is because personal characteristics, apart from money or tangible economic resources, are important as bases of decision making power and prestige. The data contradicted this hypothesis for women. As the women's achievement motivation increased, their decision making power in the household diminished actually (b=0.071; t=1.550).

The alcohol variable had a contrary effect. We would have expected that the more you drink, the less clear-headed and, consequently, the less capable you will be to contribute to decision-making within the household. The data showed this not to be the case. The women's alcoholism actually increased the decision making power they wielded[23] (b=-0.113; t=-2.617).

HYPOTHESIS #6

Based on Gottfredson and Hirschi's general theory, we hypothesized a direct positive influence of the self-control variables on economic power since achievement motivation and frequency of indulgence in alcohol are clearly factors that should influence one's remuneration and consequently one's economic power. The data did not support this hypothesis. Both self-control variables exerted no statistically significant influence on the females' economic power. The above notwithstanding, unlike what we saw in the case of the men, a high achievement motivation did boost very strongly the women's reported income (b=0.677; t=4.073).

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[23] To avoid any confusion in our minds, let us recall that the smaller the disjunction between aspiration and reality, as far as decision making in the household is concerned, the more powerful the respondent is. This explains why an apparently negative relationship between two variables becomes a positive one.

HYPOTHESIS #7

The hypothesis of both respondent and spousal violence operating to affect decision making power in the household could not be tested. When these effects were entered into the model, it failed. The iterations did not converge. The model could not even be salvaged when the forward effects were fixed while the reverse effects were freed. Because of the inability to obtain estimates of these coefficients, we are not in a position to pass judgement, based on our data, on these hypotheses.

HYPOTHESIS #8

As we saw in the male half of the model, the effect of male-on-female physical violence was significant and positive (b=0.883, t=5.824) while the female-to-male effect was statistically insignificant (b=-0.012, t=-0.616).[24]

TAKING STOCK

What have we discovered so far? On the whole, the general theory has not fared very well in the explanation of physical violence against spouses. It has had very little empirical support in this research. When variables whose theoretical importance derived from this theory exerted statistically significant causal influences, they were not in the crucial directions. Sharing a similar fate is the hypothesis that children who receive physical punishment as a disciplinary measure grow up to become violent adults. In fact, this aspect of the intergenerational transmission of violence theory has floundered even more seriously than Gottfredson and

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[24] Recall, once again, that in this section of the physical violence model, the females are the respondents while the males are the spouses.

Hirschi's general theory. Although the relevant structural parameters failed to attain statistical significance, at least the direction of effects lent some credence to the propositions deriving from the general theory. The physical punishment aspect of the intergenerational transmission of violence theory did not have even that much luck.

The second aspect of the inter-generational transmission of violence theory which deals with witnessing inter-parental violence had some support from the data. For men, witnessing their fathers hit their mothers, indeed, had a violence amplification effect, independent of the self-control variables. The same was true for the women. Witnessing fathers hit mothers in their families of origin amplified the women's physical violence.

Surprisingly, men's indulgence in alcohol did not amplify their own violent tendencies. It did, however, exert significant causal influences on their wives' tendency to be violent against them and also the wives' use of physical punishment of their children. These effects of male alcoholism, we believe, pose the strongest explanatory challenge so far. One explanatory possibility has, however, been suggested by the protagonists in a recent debate on the general theory.

Akers (1991:203-205) has suggested that there is an apparent tautology in the general theory. At first glance, he suggests, the theory appears to hypothesize low self-control as the cause of the propensity to engage in criminal behaviour. On the other hand, Gottfredson and Hirschi do not appear to define self-control separately from the propensity to engage in criminal behaviour. It would thus appear to be tautological explaining criminality with self control. Given this argument, the alcohol variable would seem qualify both as measures of self-control and criminality. Seen in this light, the apparent anomaly begins to make sense. Gottfredson and Hirschi (1993:52-53) do not see things this way. In their view, the charge of tautology is a function of their [i.e. Gottfredson and Hirschi's] obstinate refusal to separate their conception of crime from the criminal. The apparent tautology evaporates when the link between self-control and criminality is seen as probabilistic rather than deterministic, i.e., affected by opportunities and other constraints. In their view, this apparent tautology does little to weaken the efficacy of the general theory.

The men's decision making power is independent of their economic power and self-control characteristics. Paradoxically, as the ultimate resource theory suggests, they grew more violent if they perceive themselves as not having enough decision making power. As we would expect in a patriarchal society, the situation of the women was different. The only factor that boosted the women's decision making power was their alcoholism. High achievement motivation and earning more money than the men, for the women, did not translate into increased decision making power.

In sum, among the theoretical arguments underpinning this research, ultimate resource theory's contention that the source of violence against wives is males' perception of powerlessness in conjugal unions and the intergenerational transmission of violence theory's argument about the social learning influences of interparental violence have emerged as the two most credible explanations of men's physical violence against women. Apart from the substantive implications of these findings, they also make important methodological points. First, Brush's (1990) belief that quantitative social research, especially the kinds based on survey research technology, is inherently incapable of discovering patriarchy and its social ramifications has been contradicted. Second, they challenge the Yllo and Straus' (1990:387) declaration that micro-level indicators of marital power are inaccurate because they do not take into account the patriarchal social and cultural context within which marital relationships are played out. Third, they dispute the idea that the specification and estimation of causal models explaining domestic violence must await the collection of longitudinal data. Fourth, they show the credibility of our critique of Stark and Flitchcraft's views on the possibility of multiple causation when explaining men's domestic violence against women. Finally, they oppose Williams' (1992) contention that '...path analysis and the utilization of other procedures for estimating structural equation models (e.g., LISREL) are premature at this point, given the mixed levels of measurement and the need to explore alternative indices and modifications of theory. Given these data, it reasonable to suggest that the process of theory modification and exploration of alternative indices has began in earnest. We discuss the full implications of these findings in the concluding chapter.

A NOTE ON PAIRWISE DELETION OF CASES WITH MISSING DATA

The previous discussion derives from an analysis based on the listwise deletion of cases with missing data. To ensure that our results are not hostages of the listwise deletion of cases with missing data, we replicated the models shown in Figure 4.1 and Figure 4.2 with data based on pairwise deletion of cases with missing data. Hayduk (1987:326) has pointed out that '...the mathematics grounding the calculation of maximum likelihood estimates assumes that we have a covariance matrix created by recording the value of each individual (case) on all the variables included in the input data matrix-a listwise matrix. In pairwise calculations, each covariance is based on all the cases having information available only for the relevant pair of variables (not all the variables on the list); therefore different covariances can be based on different sets of cases. Pairwise matrices may cause estimation problems because they may not be of full rank and may have no inverse'. We are happy to report that the potential estimation problems with pairwise matrices failed to materialize in our case.

As with all things in life, listwise or pairwise matrices have their relative advantages and disadvantages. Listwise matrices are statistically and conceptually pure because they focus on all those who provide complete information, if an appropriate group is so selected. The disadvantage with listwise matrices is the potential for large sample attrition even if one of the variables happpens to have large numbers of no-responses. Pairwise matrices include all cases in the listwise matrices plus more. They minimize the loss cases through sample attrition. For example, in the case of our data, the two instrumental variables **RSPANKS** and **SSPANKS** were those with the least number of valid cases hence they were the variables driving the sample attrition. Because, the potential estimation problems with pairwise matrices failed to materialize, we were able to recover more cases with the pairwise matrices: 426 for men and 503 for women. These were the smallest number of Ns and the analysis was based on them. Over 90% of the other covariances had Ns in the neighbourhood of 900 and 1,000.

Comparing the pairwise and listwise matrices, we noticed that some of the variables in the pairwise matrices had variances which were several times larger than those in the listwise matrices. This is an indication that the listwise matrices have lost some outliers (see Appendix 1 and Appendix 2). Considering the fact that variances are the denominators in the calculation of regression slopes, we would expect significant differences in the parameter estimates based on the two kinds of data matrices. This prognosis, to a very large extent, failed to materialize.

We did not find appreciable differences in the results based on pairwise and listwise matrices. The combined goodness of fit for the stacked physical violence model, based on pairwise matrices are as follows: chi-square with 152 degrees of freedom 219, prob=0.000, goodness of fit index=0.974. Let us compare some key parameter estimates with those in the analysis based on listwise matrices. Beginning with the reciprocal relationship between respondent and spousal violence, the effect of male physical violence on female violence was positive (b=1.185, t=15.526) while the reverse effect was not significantly different from zero (b=-0.044, t=-0.772). This implies that males' violence incited females' to be violent while females' violence did not have a corresponding effect on males. Once again the factors exerting significant causal influences on males' physical violence are males' decision making power (b=-0.128, t=-1.627) and witnessing fathers' violence against mothers' in families of origin (b=0.022, t=1.869).

In a similar vein, the results for females were not significantly different from what we reported previously. As data from the female model show, two factors are responsible for females' violence. These are males' violence (b=1.185, t=15.426) and witnessing fathers' violence against mothers in families of origin (b=0.015, t=1.534). Despite the technical differences we have noted between pairwise and listwise matrices, none exhibits an explanatory advantage over the other. In other words, using one or the other for our analysis does not change our understanding, based on the present research, of the causes of domestic violence. The net effect of these similarities is the building of confidence in our results.

CHAPTER 4: EXPLAINING PSYCHOLOGICAL VIOLENCE

In the previous chapter, our explanatory focus was on physical violence. Specifically, we tested the empirical model developed in Chapter 2 to ascertain how well it explains physical violence. As we have seen, most of our hypotheses were not supported by the data. Because of the concern that the existing literature on violence against spouses is exclusively focused on physical violence, it may be useful to begin exploring the causal factors implicated in what is usually called psychological violence: acts intended to hurt the emotional or psychological state of the target. This is the analytic focus of this chapter. Both the structural and measurement aspects of the empirical model remain as previously specified in Figure 2.6. The variances, covariances, and means of the indicator variables are shown in Tables 4.1 and 4.2 respectively.

There were a number of data-driven

modifications[25] in the models explaining psychological violence. These modifications are indicated in Tables 4.1 and 4.2 respectively. Where appropriate, in the presentation of results, we will draw comparisons with the models explaining physical violence. The quality of the combined fit of the final stacked models on psychological violence is evident in the following overall goodness of fit statistics: chi-square with 154 degrees of freedom=178.68; probability level=0.085; goodness of fit index=0.968. Having taken note of these ground-clearing issues, we now proceed to discuss the results of the analysis, first, with respect to males. The unstandardized LISREL maximum likelihood parameter estimates of the final models for psychological violence are shown in Tables 4.3 and 4.4 respectively.

FIGURE 4.1 ABOUT HERE

FIGURE 4.2 ABOUT HERE

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[25] The rationale for data-driven modifications has already been provided in the previous chapter so we will not reintroduce them here.

TABLE 4.1 ABOUT HERE

TABLE 4.2 ABOUT HERE

TABLE 4.3 ABOUT HERE

TABLE 4.4 ABOUT HERE

MEASUREMENT STRUCTURE (MALES)

The measurement portion of the male section partly replicated the patterns we saw in the case of physical violence. The multiple indicators of both respondent and spousal violence worked as specified. Nonetheless, the multiple indicators of marital power failed: more evidence that, for the men, decision making with respect to work and babies do not belong to the same conceptual domain. The model did not spring any surprises. Having said these, let us now proceed to take a look at the structural portion of the male half of the model. Again, the exposition proceeds in the order in which the hypotheses were presented.

RESULTS (MALES)

HYPOTHESIS #1

Contrary to the hypothesis, physical punishment did not exert any statistically significant effects on the self-control variables. Nevertheless, the direction of these non-significant effects is, once again, instructive. Gottfredson and Hirschi's general theory leads to the expectation that the higher the level of parental discipline, represented here by physical punishment, the lower will be the tendency to consume alcohol. On the other hand, the theory leads us to expect that the higher the level of parental discipline, the higher will be the level of achievement motivation. Indeed, physical punishment did exhibit a negative relationship, albeit a statistically insignificant one, with the alcohol variable. Mothers' spanking also exhibited a positive relationship with achievement motivation. Although fathers' spanking displayed a negative relationship with the achievement motivation, we should note that mothers are usually the primary care givers and so their disciplinary styles and methods will be most consequential for children's behaviour. It is important, at this point, to recall that we found the same patterns when we were explaining physical violence. In addition, as we saw in the case of the models explaining physical violence, none of the self-control variables exerted any statistically significant effects on respondents' psychological violence.

HYPOTHESIS #2

Contrary to expectations based on the first part of the inter-generational transmission of violence theory, physical punishment exerted no direct or indirect causal influences on respondents' psychological violence.

HYPOTHESIS #3

The second aspect of the inter-generational transmission of violence theory led us to expect a violence amplification effect from interparental violence in the respondents' family of origin. The data, directly or indirectly, revealed no such effects. The situation here differs from that of physical violence. We discovered there a direct violence amplification effect of fathers' violence against mothers in families of origin.

HYPOTHESIS #4

The hypothesis here is that economic power should exert a powerful influence on decision making power. Just as we saw in the case of physical violence, this hypothesis was not supported by the data. In spite of this, decision making power exerted a significant influence on respondent violence. Just as we saw in the case of physical violence, the data indicate that the lower the men's perceived decision making power, the more violent (psychologically) they became (b=1.127, t=3.624). Once again, it is the ultimate resource theory which has been supported by the data.

HYPOTHESIS #5

We further hypothesized that the level of self-control should also exert a positive influence on decision making power since money or tangible economic resources are not the only relevant bases of power in human social relationships. Once again, the hypothesis was not supported by the data. Both self-control variables exerted no statistically significant effects on males' decision making power.

HYPOTHESIS #6

According to Gottfredson and Hirschi, self-control not only affects people's behaviour with respect to illegitimate activities. It also affects the chances of success in the conventional world of legitimate activities. We, therefore, hypothesized that irrespective of the level of social inequality, people with high self control are likely to earn more money and, all things being equal, have higher economic power. This proposition was only partially supported by the data. Of the two self-control variables, only alcohol exerted a statistically significant negative influence on economic power (b=-

0.451, t=4.404). Achievement motivation was not relevant for the men's economic power.

HYPOTHESIS #7

We could not model the causal statements implied by this hypothesis successfully. Recall that this hypothesis stated that both respondent and spousal violence should affect the decision making power configuration in the home. When we attempted to model this causal statement, the model failed. As we saw in the case of physical violence, the iterations failed to converge at an acceptable solution. This suggests that these causal statements implied by this hypothesis are unidentified; meaning that several or multiple estimated values would be consistent with the model. Because unique estimates were obtainable, we had to modify the model by sticking to the forward effects only.

HYPOTHESIS #8

This hypothesis examines the reciprocity of violence contention. Unlike the case of physical violence, we were successful in modelling the reciprocal effects of respondent and spousal violence. What did we find? The data revealed that psychological violence is a two-way street. Nevertheless, women were more likely to do it to men. The structural coefficients of these relationships were as follows: females to males (b=0.572, t=5.756) and males to females (b=0.318, t=2.364).

ERROR COVARIANCES

As we can see from Table 4.3, there were several significant error covariances. As we indicated in the previous chapter, Hayduk et al. (1992) have noted that every error covariance is an indication there is a systematic covariation between the variables whose error terms covary but the nature of these covariations is beyond what is specified in the model. Coupling these significant error covariances with the relatively weak goodness of fit statistics reinforces the conclusion that our models explaining psychological violence fit the data more poorly than that the models explaining physial violence. Ironically, as we will subsequently see, our models suceeded in explaining a lot more variance in psychological violence than physical violence.

INSTRUMENTAL VARIABLES

In order to improve the identification status of the model, we specified two instrumental variables to affect respondent violence. The same was true for spousal violence. None of the effects of the instrumental variables for respondent violence attained statistical significance. In the case of spousal violence, only the effect of spouses' use of physical punishment exerted a significant influence on their psychological violence against the men (b=0.156, t=4.755). Having journeyed through the results of the male half of the model, let us take a look at the results for females.

MEASUREMENT STRUCTURE (FEMALES)

The measurement structure of the female half of the model worked exactly as specified, with all the multiple indicator variables functioning as planned. The multiple indicators of respondent violence, spousal violence, and decision making power all attained statistical significant (SEE TABLE 4.4). It is noteworthy to point out that as we saw in the case of physical violence, for women decision making about babies and work belong to the same conceptual domain. Here again, we discover that the public-private dichotomy, which permeates the male world-view, is not applicable to females. This finding, coupled with some differences in reliability of the indicator variables, constitute the only points of difference between the measurement sections of the male and female halves of the model explaining psychological violence. Having taken note of these ground-clearing issues, let us now turn to an examination of our substantive hypotheses.

We present results of the analysis in the order in which the hypotheses were formulated.

RESULTS (FEMALES)

HYPOTHESIS #1

Again, physical punishment exerted no statistically significant influences on any of the self-control variables. Nevertheless, the direction of the effects, although statistically insignificant, were the same those observed under the three previous scenarios. In spite of these, one self-control variable, alcohol, exerted a statistically significant positive effect on the tendency of females to spite and insult (b=1.756, t=5.364). This means that the more alcohol they consumed, the more likely they are to spite and insult their husbands. Female achievement motivation exhibited no such effect.

HYPOTHESIS #2

The findings under the previous hypothesis do not augur well for the first aspect of the inter-generational transmission of violence thesis. Simply put, the level of physical punishment in the family of origin had no direct or indirect violence amplification effects.

HYPOTHESIS #3

While both forms of inter-parental violence exerted no significant effects on females' achievement motivation, witnessing mothers hit the fathers in families of origin amplified the females' proclivity towards alcohol (b=0.061, t=2.797). Fathers' violence towards mothers exerted no such influence. If we couple this with the effect of alcohol on female psychological violence, we come to the conclusion that there is an indirect violence amplification effect of mothers' violence for females. We found no direct effects of inter-parental violence on females' psychological violence.

HYPOTHESIS #4

Contrary to our expectation based on the general theory, women's economic power had no influence on decision making power. In the same vein, the women's decision making power exerted no influence on their propensity to engage in psychological violence.

HYPOTHESIS #5

The hypothesis here is that since money or tangible economic resources are not the only bases of decision making power, the level of self-control should also exert some influence on decision making power. The self-control variables, indeed, did exert significant influences on decision making power. However, the direction of effects are contrary to what we expected. As the women's achievement motivation increased, their decision making power decreased (b=0.084, t=1.592). On the other hand, as their indulgence in alcohol increased their decision making power actually increased (-0.114, t=-2.587)[26]. What explains this paradox?

A plausible explanation is that the paradox could be a function of the variable. Recall that the decision making power variable measures perceived powerlessness. Those with a high achievement motivation will expect to have more control over decision making but the nature of the patriarchal family makes it impossible for them to do so. Those who consume a lot of alcohol may not expect much hence their perception of feeling powerlessness decreased as alcohol use increased.

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[26] Recall that the decision making power variable is measuring the disjunction between desired power and actual power. The theory informing this variable specifies that the smaller the difference between the amount of power you desire and the amount of power you exercise, the more powerful you are hence the counterintuitive nature of this variable. Small means big and big means small. It is under this circumstance that an apparently negative relationship is being interpreted as a positive one.

HYPOTHESIS #6

The hypothesis here is that irrespective of the nature of social inequality, personal characteristics, such as a high achievement motivation and abstinence from excessive alcohol use should boost one's earnings and, for that matter, one's economic power. We found a strong positive effect of achievement motivation ($b=0.866$, $t=3.186$). Alcohol exerted no influence on females' economic power.

HYPOTHESIS #7

We could not model the hypothesis that both respondent and spousal violence should affect the decision making power configurations in the household.

When the model was specified to estimate these coefficients, it failed. The iterations did not converge. As we pointed out earlier, this is indication that unique estimates cannot be obtained for these effects. We, therefore, had to be content with a model incorporating only the forward effects.

HYPOTHESIS #8

This hypothesis examines the reciprocity of violence thesis. Because of the equality constraints we imposed on the model, the effects are the inverse of what we observed in the case of males. Recall that the females are now the respondents and the males are the spouses. While, psychological violence was a two way street, females tended to engage in it more than males (b=0.318, t=2.364 for males as opposed to b=0.572, t=5.364 for females).

INSTRUMENTAL VARIABLES

Out of the four instrumental variables, only two exerted statistically significant influences. Incidentally, both variables were the respondents and spouses use of physical punishment on their own children. Recall that in the female half of the model, the females are the respondents while the males are the spouses. The relevant structural parameters are as follows: b=0.079, t=2.329 for males and b=0.070, t=1.457 for females.

ERROR AND EXOGENOUS VARIABLES' COVARIANCES

Apart from the covariances among the background variables, there occurred a significant error covariance (PSI) between the error terms of females' income and their economic power (r=0.626). Under normal circumstances, one would have thought that the relationship between income and economic power should be directly causal. This was not the case here. We were not successful in modelling it that way. We were, therefore, left with one option which is the one we have exercised. For now, we are unable to explain this apparent anomaly.

SO WHAT EXPLAINS THE VIOLENCE?

After the excursion through the attempted explanations of males' and females' physical and psychological violence, the question which constitutes the title of this section is now in order. Since our most recent discussion is on explaining psychological violence, let us begin from there. For men, the factor that has clearly been implicated is their perceived powerlessness within the decision making power configuration in the home. The second important factor is wives' psychological violence. These two factors accounted for a maximum of 61.9% of the variation in males' psychological violence. For the women, the significant factors are husbands' psychological violence and their own alcohol consumption. Together, these factors explained a maximum of 48.3% of the variation in females psychological violence. How do these compare with the factors implicated in the genesis of physical violence?

Two major factors have been incriminated in male physical violence. These are males' perceived powerlessness when it comes to decision making in the home and the learning of conjugal violence from their fathers. These two factors explain only 7.4% of the variation in males' physical violence. For women, the key factors are male alcoholism, fathers' violence against mothers in the respondents' families of origin, and male violence. These factors explain a maximum of 29.6% of the variation in females' physical violence. As the amounts of explained variance in the dependent variables indicate, our models have turned out to be better explanations of psychological violence than physical violence.

The fact of physical violence being primarily a male-to-female phenomenon while psychological violence is mainly a female-to-male phenomenon is quite interesting. Apart from the causal factors we have identified, physical strength and body-size may be influencing the specialization. Physical strength is a factor in physical violence. You have to be stronger that someone to be able to kick and punch him/her successfully. Men, on the average, are larger and stronger than males. Activities such as insulting and spiting do not require physical strength. They only require verbal skills. Perhaps, this is why women do not face a handicap in this area and are able to outperform them in administering psychological violence.

In the initial stages of this research, we observed that one of the major factors that has hampered the acceptance of much of the domestic violence research as respectable scholarship has been the fact that it has been based mainly on non-probability samples. The present research transcends that difficulty because it is based on a randomly selected sample of the adult population of the United States. It is, therefore, instructive to note that the key factors we have identified as being responsible for violence in the home are almost identical to what evidence from battered women's shelters have shown. Key among these is the fact that physical violence is a one way street with females at the receiving end. Second, as Leonore Walker reports from her research on battered women, '... many of the [battered] women interviewed blamed their need for some autonomy as instigation of the man's violent behaviour' (Walker, 1984:118). This has been replicated by our data. Power sharing is usually a zero-sum game. The more one person gets the less the other person has. As a result, the fact of men beating the women because they perceive them as being too powerful means the same thing as the men beating the women when they express the desire for or actually take steps to claim some decision-making autonomy from the men. Third, our data have also replicated the idea that batterers are people who witnessed their mothers being battered in their families of origin. Of course, there are other no less significant findings from our analyses to this point.

Theoretical arguments that have been supported empirically by two different sources of data clearly cannot be described as statistical flukes. Perhaps, domestic violence research based on battered women's shelters should have been given more credence than has been the case. Regardless, the theoretical arguments we have examined so far do not, by any means, exhaust the range of possibilities. Are the factors we have identified the major ones, or are they a subset of many other possibilities? To obtain an answer to this question, we need to develop and test alternative models based on other theoretical arguments. This alternative modelling exercise is clearly in accord with one of the objectives of this research, which is to separate the theoretical chaff from the grain, so to speak. This task is the subject of the next chapter.

CHAPTER 5: ANY ALTERNATIVE EXPLANATIONS?

As we pointed out at the end of the previous chapter, the analytic objective in this chapter is the exploration of alternative explanations of the phenomenon under study - conjugal violence. Since our most robust findings have revolved around issue of males' desire for domination in conjugal unions, it seems logical that the exploration of alternative models should begin from a theoretical viewpoint that is also rooted in the nature of patriarchal society. The theoretical viewpoint in mind, to adulterate[27] Wolfgang and Ferracutti's (1967) phrase, is the 'culture of violence' thesis.

The systematic formulation of the culture of violence thesis as a conceptual scheme for the explanation of criminal violence was first carried out by Wolfgang and Ferracutti (1967). It was formulated with specific reference to the African-American population in the United States. Essentially, it postulates that minority groups which experience residential and cultural isolation from the rest of their communities normally constitute a subcultural area. These areas are usually characterized by poor housing, high population density, over-crowded home conditions, and most importantly, by a system of values that often condone violence and physical aggression, from child rearing processes to adult interpersonal relationships. To a lower degree, whites in the lower socioeconomic classes become part of this subculture and participate in the criminal violence. Within this value system, violence is a lifestyle that is culturally transmitted and shared. It is usually manifested in a willingness to express disdain, disgruntlement, and other hostile feelings in interpersonal relations through physical force.

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[27] We confess adulterating Wolfgang and Ferracuti's original formulation because we are extending their concept beyond the minority group context for which it was formulated.

Attempts to confirm, through empirical research, the existence of a culture of violence among minority groups (e.g., Gastil, 1969, 1978; Loftin and Hill, 1974, 1978; Doerner, 1978; Dixon and Lizzotte, 1987; Avakame, 1990) have proved futile. This futility, among other things, has led some commentators (e.g., Kornhauser, 1978) to question the idea that different strata of the population adhere to somewhat differentiated value systems. Our theoretical argument is a derivative of this train of thought. It is that violence, as a way of solving interpersonal conflict[s], derives from the societal mainstream and permeates the whole culture rather than just segments of it. In other words, the dominant culture itself is a culture of violence.

THE CULTURE OF VIOLENCE AND DOMESTIC VIOLENCE

The theoretical argument linking the culture of violence thesis to domestic violence is that conjugal violence, like all other forms of violence, is not limited to any segment of the population but a 'manifestation of the asymmetrical pattern of male-female sex-role socialization in which males are taught to be aggressive and dominant while females are taught to be passive and submissive' (Baron and Straus, 1989:6)[28]. As a result, to be male is to be 'macho' and, to be 'macho' is to have a low ideological aversion to violence.[29]

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[28] See also Cherry (1983); Griffin (1971); Weis and Borgess (1977); Walker (1984); Martin (1976).

This view was first articulated by feminist scholars (e,g., Brownmiller, 1975) to challenge the idea that violence is only acceptable within certain underpriviledged segments of society. Like most other explanations within the feminist paradigm, the factor held responsible for the widespread normative acceptance of violence is the patriarchal social system. This view, however, did not inform the conventional criminological literature until the advent of power-control theory (Hagan et al., 1975).

In power-control theory, delinquency is the acting out of modes of behaviour espoused by the societal mainstream. According to the theory, delinquency is predominant among boys because patriarchal societies encourage a proclivity towards risk in boys while cultivating the cult of domesticity in girls. It is this proclivity towards risk in boys that gets manifested in delinquent behaviour, entrepreneurial prowess and, to extend the theoretical argument, violence.

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[29] This is not to suggest that all males have high tolerance of violence and all females have low tolerance for violence. Since tolerance of violence is a variable, we should expect people along the whole spectrum of responses from zero-tolerance to high tolerance.

Articulating a similar point of view, Baron and Straus (1989) have argued that this normative acceptance of violence need not be limited to the acceptance of the legitimacy of violence in one aspect of social life [e.g., violence against wives]. It does spill-over and gets manifested in several other areas of social life. This is the key proposition underlying what they call the cultural spill-over theory of violence. As they put it, 'the distinctive feature of cultural spill-over theory is the idea that cultural support for rape [or other forms of violence against women] may not be limited to beliefs and attitudes that directly condone rape and other criminal violence' (Baron and Straus, 1989:147). As a result, the key issue for our research is not the phenomenal form in which this ideological tolerance for violence is manifested but whether it augments the probability of violence against wives [or husbands]. *Our research hypothesis, therefore, is simply that the higher the ideological tolerance or normative acceptance of violence, the higher the probability of perpetrating* *violence against the wife [spouse]'.*

We developed a model to test this proposition premised on the culture of violence explanation of spousal violence. The model is also based on data from the 1987 All Alberta Study. This survey was conducted by the Population Research Laboratory, University of Alberta. The 1987 survey focused, among other things, on violence within the family and used Gelles and Straus' conflict tactics scale to measure violence between spouses (Kinzel, 1987). The survey reached a total of 1045 respondents using face-to-face interviews in Edmonton and telephones for the rest of the province.

The ideological tolerance or normative acceptance of violence was measured using the following instrument:

> *In terms of the severity of harm caused to the victim, rate the following acts on a scale of 1 to 10 (1 indicating less severe, 10 indicating most severe).*

The acts the respondents were asked to rate were as follows: child abuse, armed robbery, drunk driving causing injury, theft of $1000 or more from the average person, wife abuse, vandalism causing damage of $1000 or more.

At this point we need to revisit our previous discussions on latent constructs and their empirical referents or indicator variables. Normative acceptance/rejection of violence is an attitudinal thing embedded in people's brains. As a result, it is directly inaccessible to us. The only way we can get at it is through the indirect route of analyzing expressed attitudes and/or behavioral tendencies. Given this, the relevant question becomes the following: 'Are people's attitudes towards violence [i.e., normative acceptance/rejection of violence] likely to be reflected in their opinions regarding severity of these violent acts?. Our answer to this question is in the affirmative.

We cannot overemphasize the fact that this is not the only factor that can affect their responses to these questions. We are also not claiming that these are the only ways in which normative acceptance/rejection of violence can be manifested. But as we have repeatedly pointed out throughout this thesis, the presence or absence of these other factors is not consequential for the relationship between the latent construct and these particular empirical referents. Let us, therefore, reiterate the reasoning underlying the use of these items: those who think these violent acts are 'no big deal' should be more likely to use violence themselves than those who do not.

The vast majority of the respondents considered he consequences of these acts of violence as very severe. The means of these variables ranged from 9.227 (child abuse) to 6.428 (theft of $1000 or more from the average person). These means indicate a high ideological or attitudinal aversion to violence. The full empirical model to be tested is depicted in Figure 5.1.

FIGURE 5.1 ABOUT HERE

Although, the theory informing the analysis has been propounded only with reference to males, there is the suggestion that it is not only males that act violently when they subscribe to violent norms (Gagnon and Simon, 1973). As a result, we disaggregated the analysis by sex to examine how gender interacts with the causal processes we have specified. As before, we used LISREL maximum likelihood estimation methods to test the veracity of our arguments. We also stack the model[s] to explore commonalties and/or interactions across the gender spectrum.

The goodness of fit statistics for the stacked model are as follows: chi-square with 12 degrees of freedom 6.87 (prob. level=0.866), goodness of fit index=0.998. These statistics suggest that our simple model fit the data very closely. **The results, however, indicate that, for both males and females, none of the attitudinal variables was significantly related to the violence acts.** Nevertheless, as the cultural spill-over theory of violence suggests, the items measuring attitudes towards violence were significantly intercorrelated. What the insignificant maximum likelihood parameter estimates are suggesting is that when it comes to violence against the spouse, there are no significant differences between those who think violence is bad and those who do not. While the results of the analysis are disconcerting, they join a long line of criminological research that has consistently failed to document an empirical relationship between culture of violence and empirical manifestations of violence (e. g., Avakame, 1990; Hayduk and Avakame, 1992; Baron and Straus, 1989; Loftin and Hill, 1974; Dixon and Lizzotte, 1987).

Perhaps, people do not act violently towards their spouses because they believe violence is appropriate but because they are under stress. Let us now examine the possibility of stress as a causal factor in the genesis of violence against the spouse.

THE STRESS FACTOR IN DOMESTIC VIOLENCE

The process of social stress can be seen as combining three major conceptual domains: the sources of stress (stressors), the mediators of stress, and the manifestations of stress (Pearlin et al., 1981). Stressors refer to the experiential circumstances that give rise to stress (Pearlin, 1989:243). Werner-Leonard (1991) as well as Pearlin (1989) have distinguished between two types of stress: life events and chronic strains. Life events involve changes in one's life and behaviour adaptation. Chronic strains refer to enduring unfavourable circumstances in one's life e.g., family poverty, physical disability, or membership of an ethnic or racial minority. Typically, these are problems that arise within the boundaries of major social roles and role sets. Both can have independent or additive effects on the individual's life. This possibility of multiple causation requires that studies must cast as wide a net as possible to measure the extensive array of stressors that may be present in an individual's life (Pearlin, 1989:248).

Stress does not culminate in the same outcomes for all people. The key element responsible for this differential response to stressor stimuli is what Pearlin (1989) refers to as stress mediators. As he puts it '... they are mediators in the sense that they have been shown to govern (or mediate) the effects of stressors on stress outcomes' (Pearlin, 1989:250). These stress mediators are the social and psychological resources individuals mobilize to buffer themselves against the ravaging influences of stressors. Salient among these are self-esteem and social values. By social values, we are referring '... to what is defined socially as good, desirable, and prized or as something to be eschewed' (Pearlin, 1989:249). For example, if stress does lead to violence against the spouse, what explains the fact that this is not true for all people. The answer might partly depend on the particular individual's normative acceptance or rejection of violence. To the extent that one is stressed and thinks that it is acceptable to strike one's spouse during a dispute or an argument, such an individual can easily invoke a violent response to even seemingly trivial precipitating circumstances. Presently, the role of values as mediators of stress has been sparsely investigated. Mastery and self-esteem are two dimensions of the self-concept that also act as important psychological resources in mitigating the ravaging effects of stress (Werner-Leonard, 1991:18).

Based on these theoretical premises, we derive three research hypotheses. They are:

a. *Stressor stimuli do magnify the probability of* *violence against the spouse, whether male or female.*

b. The relationship between the stressor stimuli and violence is mediated by the individual's self-esteem. In other words, if the stressor variables induce low self-esteem, violence will increase.

c. Those who suffer stress and those who believe that it is normal to be violent against the partner will be more likely to engage in intra-marital violence than those who are not.

Sociological research examining the role of stress in domestic violence is sparse and the results somewhat contradictory. Seltzer and Kalmuss (1988), using data from a 1976 random sample survey of adults in the United States examined the relative importance of early childhood socialization and lifestrains for predicting spouse abuse. Their data indicated that childhood experiences of violence in the family had a greater impact on the probability of spouse abuse than chronic economic strain or acutely stressful personal circumstances. In a similar vein, Marshall and Rose (1990) examining a sample of 454 single and dating undergraduate students found that negative stress was not significantly related to the probability engaging in courtship violence. MacEwen and Barling (1988) found stress to be related to conjugal violence only for females when they examined longitudinal data gathered from 275 couples in Onondaga and Suffolk counties in New York.

The immediate precursor to our present research is a study examining the effect of stress on marital violence carried out by Straus (1992). The questions addressed by that research are identical to the ones we are posing here: **do stressor stimuli augment the probability of engaging in violence against the spouse? If there are violence amplification effects [of stress], are they direct or indirect (i.e., mediated by some intervening variables)?**. It was also based on data from the 1975 Gelles and Straus family violence survey. This is the same the data we have used in most of the research we reported in earlier chapters and will be using to test our stress model.

Straus' analyses were mainly bivariate. They involved the computation of rates of violence by husbands and wives for each stressor variable and for each hypothesized 'conditioning' variable. What is crucially absent from that research is the concept of statistical control. While he hypothesized the conditioning effects of interacting and intervening variables, the analysis failed to model them. This is where the present analysis transcends Straus' (1992). Besides, Straus' analysis was mainly limited to male physical violence. An important part of the present research is the exploration of statistical interactions between gender, stress, and violence (both physical and psychological).

The measures of physical and psychological violence remain the same as those used in the previous chapters. Self-esteem was measured by three indicator variables: whether the respondent influences or takes charge of others, ambitious, works hard, or has high standards, and whether the respondent has positive attitude about the self e.g., feels equal to others. People with high self-esteem typically have very positive opinions about themselves and so we will expect them to report favourable evaluations of themselves on all three dimensions. These variables are on a Likert-type scale with the response categories ranging from 1=Never to 6=Almost Always. Normative acceptance of violence is measured by three indicator variables: whether respondents think it is necessary, or normal, or bad for couples to slap one another. The response categories for all three variables range from 1=low acceptance to 7=high acceptance.

Our model examines the causal efficacy of nine stressor variables. These stressors span a wide range of potentially stressful conditions in a person's life. They include stress arising from the family (arguments with the spouse, sexual difficulties, unhealthy family member), stress arising from the work environment (troubles with the boss, troubles with others at work), economic crisis (financial crisis, getting laid-off or fired from work), other social relationships (death of someone you felt close to), and personal health status (serious sickness).

Pragmatic considerations were paramount in the selection of these stressor variables. Because we did not collect the data ourselves, we did not have the luxury of choosing exactly what we want. These are the stressor variables with reasonable numbers of valid cases available from the data set. The questions were framed in such a manner that the respondents were forced to indicate only whether the condition was present or absent in their lives. The responses were recoded as dummy variables comparing those who were experiencing these stressor stimuli with those who were not.

For each form of violence (i.e., physical or psychological), the analysis proceeded in two stages. The model was, first, tested separately for males and females. If they showed some promise, we stacked them to examine possible interactions of gender with our hypothesized causal processes. With the exception of differences in sample sizes (421 for females and 573 for males), fixed lambda values, and reliability indices, the basic model tested in all four categories remain what is depicted in Figure 5.2. The statistical analytic method is LISREL.

FIGURE 5.2 ABOUT HERE

We stacked the stress models for both males' and females' physical and psychological violence as we did in Chapters Three and Four. In both cases, the models did not fit the data properly. Both model chi-squares were statistically significant.

Recall that the goal of the LISREL model estimation procedure is to obtain estimates of model coefficients which imply a covariance structure that is not significantly different from the observed data covariances. A statistically significant model chi-square indicates that even the most judicious allocation of estimated values to the coefficients comprising the model is unable to provide a close match between our theory (the model being estimated) and the data (the input covariance matrix). This has one major implication: the causal processes we have specified in the model differ in one or more substantial ways from the true relationship between stress and domestic violence. At the very least, let us see what information we can glean from these statistically recalcitrant models.

We begin with the models exploring the relationship between stress and physical violence.

Goodness of fit statistics for this stacked model are as follows: chi-square with 141 degrees of freedom=378.07, prob. level=0.000, goodness of fit index=0.949.

STRESS AND PHYSICAL VIOLENCE (MALES)

Amount of variance explained in the dependent variable, physical violence, for males, was 12.2%. Normative acceptance of violence was barely significantly related to physical violence, albeit in the direction predicted (b=0.117, t=1.565). The relationship between self-esteem and physical violence did not attain statistical significance. Out of the eight exogenous stress variables, only two are significantly related to normative acceptance of violence. These are financial crisis (b=0.296, t=2.808) and arguments with the spouse (b=0.555, t=4.226). Arguments with the spouse also had a direct violence amplification effect(b=-1.090, t=4.816).The other stress variables that had direct violence amplification effects are serious sickness (b=0.455, t=2.881) and got laid-off (b=0.611, t=3.120). How does this picture compare with females?

STRESS AND PHYSICAL VIOLENCE (FEMALES)

Amount of variance explained in the dependent variable, physical violence, for females, was 9.6%. Both stress and normative acceptance of violence were not significantly related to females' physical violence. Three of the exogenous stress variables exhibited direct violence amplification effects. These are got laid-off (b=0.857, t=3.855), financial crisis (b=0.557, t=2.539) and arguments with spouse (b=0.519, t=2.007). These last two stress variables also served to bolster females' normative acceptance of violence. On the whole, the picture here does not appear to differ significantly from what we reported for males. Given this picture for physical violence, let us see what the data show for psychological violence.

STRESS AND PSYCHOLOGICAL VIOLENCE (MALES)

The goodness of fit statistics for the stacked model for males and females are as follows: chi-square with 141 degrees of freedom=383.40 prob. level=0.000, goodness of fit index=0.953. Amount of variance explained in the dependent variable, psychological violence, for males, was 4.3%. Both intervening variables, normative acceptance of violence and self-esteem, were not significantly related to psychological violence. Three of the exogenous stress variables exhibited direct effects on the dependent variable. These are got-laid off (b=1.256, t=1.864), trouble with the boss (b=0.786, t=1.715), and arguments with spouse (b=2.148, t=2.601).[30] None of the stress variables exerted significant causal influences on self-esteem and only two displayed effects on normative acceptance of violence. These are financial crisis (b=0.293, t=2.771) and arguments with spouse (b=0.589, t=4.224).

STRESS AND PSYCHOLOGICAL VIOLENCE (FEMALES)

In this instance, the females' self-esteem is significantly related to their psychological violence (b=0.597, t=2.210). This was about the only meaning ful parameter estimates. There were other statistically significant estimates but their standard errors were ridiculously large; rendering the parameter estimates useless. Regardless, only 9.2% of the variation in the dependent variable, females' psychological violence, was explained.

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[30] We hasten to add that these relatively small t-values are indication that the standard errors are very large. This means we should have little confidence in these parameter estimates in spite of the fact that they attained statistical significance.

Typically, when a LISREL model fails to attain statistical significance, it implies that additional parameters are needed to bring the covariance structure implied by the model into accord with the covariance structure implied by the data. In the case of the stress models examined above, the models' diagnostics indicated that most the parameters that could have made a difference were error covariances, both among the latent concepts and indicator variables. As pointed out earlier, error covariances are indication that the nature of the covariation between the variables whose error terms co-vary is not what is being modelled. In other words, the covariance structure implied by the model is different from the covariance structure embedded in the data. A statistically significant model chi-square tells the same story and so the chickens are back to roost. The nature of the covariation between stress and psychological violence is different from what we have specified in our causal model.

The next question that confronts us is what do we do with statistically recalcitrant model[s]? The answer to this question sends us back to the fundamentals of social research and debates about falsifiability of theories and hypotheses [see, for example, Popper (1972) on the logic of scientific discovery]. At this juncture, it is important to recall that models and/or null hypotheses are theoretical conjectures about how we think the empirical world behaves. Through the process of data analysis, we arraign our theoretical conjectures before the jury of empirical data: the final arbiter in theoretical disputes. If our theoretical conjectures are shown to be inaccurate, we have no choice but to go back to the theoretical drawing boards and redesign our theories. There is, therefore, scholarly value in statistically contrary models and/or hypotheses: they eliminate erroneous conjectures. The elimination of one more false conjecture brings us closer to locating the true cause[s] of the empirical phenomenon in question. This is of immense importance in the proportionate reduction of error in understanding our dependent variable[s].

Perhaps, it will be reassuring to note that this is not the first time this kind of thing has happened in rigorous domestic violence research. Before the commencement of the present research, we (i.e., Hayduk and Avakame, 1992) examined the deterrence thesis within the context of domestic violence research. While the idea that sanctions deter crime has been an integral part of criminological orthodoxy since Beccaria and Bentham, it did not feature prominently in empirical research until the pathbreaking empirical work of Erhlich (1974) and Becker (1974). Their research virtually opened the sluice gates for the empirical estimation of the effect of deterrence on the probability of criminal activity.

The deterrence question has revolved around the relative efficacy of certainty and severity of formal and informal sanctions[31]. We (i.e., Hayduk and Avakame, 1992) tested the relative efficacy of these factors in the reduction of violence against spouses using data from the 1987 All Alberta Study. Although the source of the data was different from what we are using in the present research the questionnaire items were similar. Among other things, we found that certainty or severity of formal and informal sanctions had no significant effects on the probability of physical violence against wives [see Dutton, Hart, Kennedy, and Williams (1992) for evidence to the contrary]. It is needless to add that these results were far from what we expected. We were, therefore, not surprised that all hell broke loose when these results were presented to an academic audience for the first time[32]. The presentation was done by the author of this thesis. The research was attacked on several grounds. Prominent among these were the validity and reliability of the data, the appropriateness of LISREL, the wisdom of doing survey research etc.. The most memorable line of attack was that using LISREL on sociological data is akin to using to nuclear-power in a lawn mower. In sum, people wanted to believe anything but the data we were reporting.

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[31] Formal sanctions are those administered by the criminal justice system while informal sanctions encompass to such factors as loss of status, shaming, disapproval of friends etc..

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[32] Department of Sociology, University of Alberta Brown Bag Seminar at 12:00 noon, November 12, 1992.

We were gratified when our data were vindicated by research conducted using the strongest of scientific research designs: **the randomized experiment** (Dunford, Huizinga, and Elliott, 1990; Hirschel at al., 1990; Sherman et al., 1991). These pieces of research were replications of the first ever randomized experimental research on the deterrent effect of arrest on domestic violence in Minneapolis (Sherman and Berk, 1988). The results of this original research supported a specific deterrent effect of arrest on domestic violence. The American National Institute of Justice funded replications of this experiment in six additional cities. Findings from five of the cities are now available: Omaha, Milwaukee, Charlotte (NC), Colorado Springs, and Dade County (Miami). Replications in Omaha, Charlotte, and Milwaukee found no long term deterrent effect of arrest on recidivism. Instead, they found significant long term increases in subsequent incidents. However, the Colorado Springs and Dade County replications reported a long-term deterrent effects of arrests (Sherman and Smith 1992:680).

In response to these apparent contradictions on the effect of arrest on domestic violence, three research teams (Sherman and Smith, 1992; Pate and Hamilton, 1992; Berk, Campbell, Klap and Western, 1992) examined the possibility of interactions between the deterrent effects of arrests and stakes in conformity [otherwise known as social bonds]. All three sets of authors' reanalysis of the data showed significant deterrent influence of arrests on employed but not unemployed persons. That arrests work to deter employed but not unemployed persons from engaging in domestic violence in hardly cause for a victory parade. While we can bicker about what these results mean, one thing in clear: the jury is still out on whether there is conclusive evidence that arrests deter spouse beaters from plying their trade.

That arrest does not deter wife beaters, or at the very least, not the unemployed ones begins to make sense viewed against the background of results we have reported earlier in Chapters Three and Four of this thesis. Recall that one of our most robust results have been that the effect of female-on-male violence is insignificant while the effect of female-to-male violence was insignificant and that the are physically violent towards their wives for two main reasons: when they feel powerless vis-a-vis their wives and when they watched their fathers' do it in their own families of origin. It is highly probable that if we ask the fathers why they did it, we will come up with the conclusion that they also perceived their wives as being troublesome. It is only recently that criminal justice agencies have been literally coerced into viewing and handling violence against wives as a criminal activity. It is, therefore, not surprising that arrests are not deterring people from doing what has hitherto been considered normal. What we are witnessing is a classic case of cultural lag: normative change lagging behind social structural change. Given these considerations, the idea that stress is primarily not significantly related to domestic violence also begins to make sense. While all of us can point to acquaintances who beat their spouses because of stress, alcohol etc., we should not lose sight of the fact that statistical insignificance of a parameter estimate only implies that those who embody the particular characteristic described by an explanatory variable are no more likely to engage in the activity described by the dependent variable than those who do not. Let us now conclude.

CHAPTER 6: SUMMARY, DISCUSSION, AND CONCLUSIONS

To recapitulate, this doctoral dissertation research is an investigation of the dynamics and etiology of inter-spousal violence. Many scholars have attempted to unravel the determinants of family violence but much of this research has been characterized by descriptive work, with little hypothesis testing, causal modelling, or attempts to construct and test integrated theories of family violence. Research that tests the conventional wisdoms that have been developed over the past twenty-five years with some methodological rigour is imperative. In addition to the need for more rigorous hypothesis testing research, there is a growing need to investigate the relationship between family-violence theories and traditional criminological theories. The big, and yet unanswered, question is whether violence within the family differs enough from violence outside the family to warrant a unique set of explanatory theories.

This dissertation research, among other things, is at the confluence of these two currents in family violence theory and research. It is a rigorous test of some of the most prominent conventional wisdom about the etiology of inter-spousal violence but does so mainly within the context of a prominent criminological theory: Gottfredson and Hirschi's (1990) general theory of crime. Several major propositions have been tested in this research. One says that people grow up to become violent and criminal adults because of insufficient parental supervision and discipline. A form of discipline especially pertinent for family violence theory and research is physical punishment. Another key proposition states that when we spank children we teach them that it is acceptable to use violence to induce compliance. Hence, in direct contradiction to the first hypothesis, this proposition leads to the prediction that spanking in childhood magnifies violence in adulthood. A third hypothesis comes from feminist scholarship and states that males' economic power leads to greater decision making power which, in turn leads to violence against wives. As alternative explanatory frameworks, we have also examined the culture of violence thesis as well as the causal efficacy of stress as a factor in the generation of domestic violence.

Overall, the results of this research provide little support for Gottfredson and Hirschi's general theory. First for both males' and females' physical and psychological violence, we did not find firm support for the hypothesis deriving from Gottfredson and Hirschi's general theory that parental discipline induces high self-control. Second, with the exception of females' physical and psychological violence, we did not find the self-control variables to be causally related to respondents' conjugal violence. Achievement motivation exerted virtually no significant causal influences on males' physical and psychological violence. Alcohol consumption also wielded no significant causal influence on males' physical and psychological violence. Alcohol, however, did exert a significant influence on females psychological violence.

This scanty support for the principal hypotheses deriving from the general theory does not augur well for the health of the theory. However, it is worth pointing out that although most of the key structural coefficients deriving from the theory were statistically insignificant, the direction of these statistically insignificant effects were in the directions we predicted. It can be argued that discussing the direction of statistically insignificant effects is redundant since they are equally likely to have gone in opposite directions. There is some validity to this argument but, as we have already noted, the directions of these effects are too consistent across models to be random. For now, the fact remains that the theory, as specified in our model, remains unsupported despite the correctly predicted directions, because the effects are not strong enough to be statistically significant.

How do our results compare with others from research designed to test various aspects Gottfedson and Hirschi's general theory empirically? Let us take a look at three very recent tests of different aspects of the theory.

Grasmick, Tittle, Bursik, and Arneklev (1993), using data from the 13th Annual Oklahoma City Survey, tested the explanatory relevance of self-control and criminal opportunities for the genesis of crime. They had twenty-four indicators measuring the different dimensions of self-control (Grasmick et al., 1993:14-15), factor analyzed them, and created a scale for low self-control as a linear composite of the z-score transformations of the items. As measures of crime, the respondents were asked how many times in the past five years they distorted the truth or falsely represented something to get something they would not otherwise obtain (fraud), and how many times in the past five years they used or threatened to use force against an adult to accomplish their goals (Grasmick et al., 1993:18). Criminal opportunity was measured by asking the respondents if these activities took place under circumstances in which no one was likely to find out. Conceding that their research, like ours, shows explanatory potential of the theory, they nonetheless concluded by arguing their results indicate that '...Gottfredson and Hirschi have devoted insufficient attention to the criminal opportunity variable and the sources of its variation' (Grasmick et al., 1993:23).

They also went on to assert that the large amounts of unexplained variation in the dependent variables are suggestion that variables from other criminological theories, especially those of the structural and motivational persuasion, are needed to amplify the explanatory potential of the general theory.

Keane, Maxim, and Teevan (1993) examined the relationship between self-control and driving under the influence of alcohol using a 1986 survey of nighttime drivers in Ontario. Driving under the influence of alcohol was their dependent variable. This was measured by readings on breathalyser machines (Keane et al., 1993:33). The range of self-control [explanatory] variables encompassed several indicators of a reckless lifestyle [e.g, failure to wear a seatbelt]. A distinctive feature of this research was that majority of the explanatory variables and the dependent variable were objective measures actual behaviours. This freed the data from most of the validity-threatening problems that usually plague survey research. In sum, '...the study confirms the relationship between type of behaviour and low-self control and provides additional evidence for a general theory of criminality, one that holds, at least in this instance, for both males and females' (Keane et al., 1993:44).

A third recent test of the general theory is by Benson and Moore (1993). They tested the versatility of crime proposition. Gottfredson and Hirschi have argued that people who commit one form of crime are the most likely to commit other crimes. In testing this proposition, they compared criminal records of white-collar criminal and common offenders [those who engage in what are usually called street crimes, e,g., robbery and assaults] and their respective levels of participation in other deviant activities. The results of this research provided partial support for the versatility of crime hypothesis. Some white-collar offenders were involved in criminal and deviant activities in much the same way as common street criminals. Nevertheless, a large majority differ significantly from street criminals in this regard, contradicting the versatility of crime thesis of the general theory. In the authors' view, the absence of motivational factors in the theory is a significant omission which needs to be rectified.

Like Bursik et al.'s our data derive from a cross-sectional survey but their measures of crime are so vague that they appear almost meaningless. As we pointed out in Chapter Two of this thesis, to minimize social desirability effects as a threat to data validity, respectable criminological surveys do not ask respondents directly if they have engaged in criminal activity. Nevertheless, their results, like ours provide limited support for the theory and highlight the importance of social structural factors in the genesis of crime.

According Gottfredson and Hirschi (1993), this limited support for their theory by research using survey data may very well be an artifact of the data collection process itself since the level of self-control affects survey responses. People who are have low self-controls are least likely to respond to criminological surveys, and even if they do they are not likely to respond truthfully. As you will recall, we have discussed the methodological implications of this possibility at length in Chapter Two and came to the conclusion that the implications, although real, are not as debilitating as the conventional wisdom suggests. The statistical significance of structural coefficients other those connecting the general theory and violence attest to this. In any case, we concede that Keane et al.'s (1993) measure of crime and self-control through direct observation of behaviour (e.g., wearing a seatbelt and blood alcohol content), because they are independent of self-reports, are much more likely to facilitate better tests of the theory. The fact that it is this study that has the strongest evidence in favour of the theory is suggestive of this.

Benson and Moore's (1993) challenge to the versatility of crime proposition is a suggestion that the inability of the general theory to explain domestic violence might be real. If the versatility of crime proposition happens to be untrue, then we are confronted with the possibility that the general theory can explain some but not all crime. Recall that we have already discovered that physical violence and psychological violence are not the same phenomena [i.e., do no not belong to the same conceptual domain and so cannot serve as multiple indicators of a common latent construct]. The issue of what crimes are within the explanatory orbit of the general theory then becomes an open empirical question.

In another respect, our research corroborates a key plank in the conventional criminological literature: the idea that 'dysfunctional' families have major criminogenic influences on their progeny. Our data show that inter-parental violence in the family of origin magnifies conjugal violence in adulthood. For both males and females, fathers' violence against mothers in their respective families of origin showed a direct conjugal violence amplification effect in adulthood. Mothers' violence against fathers also had a significant causal influence on females psychological violence, albeit an indirect one [see Loeber and Southamer-Loeber (1986) for a review of this literature]. We do not know, for sure, why this intergenerational transmission of criminality occurs. Some e.g., Wilson and Herrnstein

(1985), Eysenck (1989) have posited biological explanations for this link. Others have proposed various kinds of sociological explanations (e.g., Hagan, Simpson and Gillis, 1985; Laub and Sampson, 1988; McCord, 1991a, 1991b; Wells and Rankin, 1986, 1988, 1991) Some others have proposed social psychological explanations [e.g. Bandura, 1977; Straus, 1992]. Hirschi (1985:59) also considers core sections of the general theory as being of some explanatory relevance for this phenomenon.

Contrary to the social learning view of criminality, the view of human nature underlying the general theory is that left on their own, human beings gravitate towards the unbridled pursuit of pleasure. In human society, pleasurable things do not come easy. As a result, the unfettered pursuit of pleasure will necessarily entail the use of force or fraud. Given this fact, criminal behaviour is not something parents have to work to produce in their children. They are born with that tendency. Rather, criminal behaviour is something they need to work hard to extinguish. Consistent with this view is the idea that parents with criminal records do not encourage criminal behaviour in their children. But not wanting criminal behaviour in one's children or being upset when it occurs do not necessarily imply that great efforts have been put into stamping it out.

If criminal behaviour is oriented towards short-term payoffs while child-rearing is oriented towards long-term results, parents with criminal records will in most cases will be poor parents. Their supervision of children will tend to be lax or inadequate, punishment will tend to be cheap and short term, but most important of all, they are not willing and/or able to recognize criminal behaviour in their children. Even if they do, they are less likely to 'call a spade a spade'. As a result, their children grow up with the attitude that they can do anything they want, including criminal activity, and get away with it. These commonalties suggest the possibility of some convergence between traditional criminological and family violence areas of scholarship.

For both males' and females' physical and psychological violence, we found no trace of empirical support for the intergenerational transmission of theory's argument that spanking in childhood translates into conjugal violence in adulthood. The lack of support and/or promise for the idea that if we spank children, we teach them to be violent adults directly confronts much of the modern wisdom on parenting: the idea that spanking has a deleterious effect on children's adult behaviour. Perhaps, it is important to note that the average age of the respondents in the majority of research reported earlier [i.e. Gelles and Straus' 1975 Family Violence Survey] research was 40. Coupling this with the fact that this survey was carried out in 1975, we arrive at the conclusion these people were born in the 1930s, an age in which spanking, as a form of parental discipline, was very much in vogue. Sceptics can challenge these results by arguing that the reports of spanking were based on recall and, therefore, cannot be trusted. While this argument cannot be ruled out as entirely redundant, the consistency of the effects of physical punishment give reason to pause and reconsider the premise[s] of the whole contemporary anti-spanking ideology. If anything, the present research is suggesting that it is inter-parental violence in the family of origin that has the violence perpetuation effect.

The results of our research constitute a mixed blessing for the feminist scholars whose ideas we challenged in Chapter Two. In one respect, our data provide support for some of their theoretical arguments. First, our data indicate that while it is, indeed, true that women did report kicking and hitting their husbands, what we have found suggests that most of these female acts of physical violence were in response to males' violence. Recall that there was a strong effect of males' physical violence on females' while the reverse effect was statistically insignificant. Second, the data supported the argument that males economic power does not depend as much on their achievement motivations and other personal characteristics as it does for women. In addition, we discovered that the men's decision making power in the household does not depend on their economic and self-control characteristics. Third, women's superior economic and other personal characteristics did not translate into more power at home, as the general theory seems to suggest. In fact, the more of these resources women had, the less powerful they felt. Given these male-female discrepancies we, can conclude that, as far as gender differences are concerned, the general theory is not so general, after all. It does not appear to cross the gender spectrum. This statement, nonetheless, does nothing to negate the salience of the theory's arguments about parental discipline and its consequences for children's adulthood behaviour. Fourth, our data revealed that for men, unlike women, matters relating to the home and world of paid-work belong to separate conceptual domains; an empirical manifestation of the much touted public-private dichotomy in men's world-view. All the above notwithstanding, we found no support for the Dobash and Dobash argument that men beat women because they (i.e. the men) are more powerful than the women.

In spite of this strong support for the feminists' theoretical argments, our data challenge many of the methodological assumptions they have used to differentiate violence in the family from other forms of criminal violence. In spite of the fact that the women did report some violence of their own, the effect of female-on-male violence was statistically insignificant while the effect of male-on-femle violence was statistically significant. Coupling this with the robustness of the decision making power variable leaves provides reasonable support to the argument that men beat their wives to cow them into submission. This leads directly to the question of whether male domination is 'a' factor or 'the' factor responsible for males' domestic violence.

Male dominance was not the only factor that was causally related to male violence. We have also noted the effects of fathers' violence against mothers in families of origin. Despite the fact that the causal effects of these two factors were significant, together they were able to explain only 7.4% of the variation in male physical violence. The causal significance of a second factor and the large magnitude of unexplained variance [92.6%] are suggesting that male dominance is probably 'a' factor but not 'the' sole or crucial factor in the explanation of male physical violence against wives. This implies that it is premature or inappropriate to rule out the explanatory relevance of alternative criminological and other theories that might have explanatory relevance. We still have over 90% of the variation in males' physical violence to explain.

An important novelty in this thesis is the analysis of psychological violence. Recall Brush's (1990) argument that the National Survey of Families and Households [NSFH] failed to consider the extent to which non-argumentative techniques are used as tools on intimidation. Recall also Weis (1989) argument that violence, intent to harm, and physical injury should be the hallmarks of an empirically useful definition of violence. Unlike the NSFH, Gelles and Straus' 1975 and 1985 family violence surveys collected data on psychological violence but have focused their entire analytic energies on explaining physical violence. In short, the explanation of psychological violence, until this research, has been an intellectual blackhole awaiting illumination.

In a preliminary analysis, following the arguments of Gottfredson and Hirschi, we modelled indicators of both physical and psychological violence as multiple indicators of a common latent construct: violence. As we have seen, this model failed with indications that physical and psychological violence do not belong in the same conceptual domain. Following this, we proceeded to analyze psychological violence separately from physical violence.

Because of the initial indications that physical and psychological violence are not the same phenomena we were not surprised to find a causal picture for psychological violence that, in several respects, was radically different from that of physical violence. Focusing our attention on the statistically significant causal paths, the only point of similarity with physical violence was the fact that males' decision making power exerted a significant causal effect on their own psychological violence. The similarities ended there. Although both men's and women's psychological violence exerted statistically significant causal influences on each other, we found women to be more psychologically violent than the men. We also found alcohol to be a significant generator of females' psychological violence. The major factor underlying the absence of surprise about the causal picture connected with psychological violence is that activities such as insulting and saying things to spite the other person are not dependent on body size or physical strength; factors which probably give males the upper hand in physical violence.

That mothers' violence against fathers heightens females' affinity for alcohol and this in turn amplifies females' psychological violence may be supportive of the arguments of Hirschi (1985) concerning the intergenerational transmission of criminality. On the other hand, these data could also be indication that witnessing mothers standing up to fathers emboldened and empowered the women to stand up to their own husbands. It is our guess that feminist scholars will be more inclined towards the second proposition. For now, we have no evidence on which we can base preference for one of these theoretical conjectures.

It is needless to add that, our research has lent support to Gelles and Straus' definition and measurement of physical violence using the Conflict Tactics Scale [CTS][33]. Recall that the CTS and its constituent elements have been faulted on several grounds and its validity and reliability, as an instrument for measuring physical violence in conjugal unions, called into question. Some of the arguments against the CTS were that it has no measures of violence outside the context of disagreements. It did not ask who started the fight. It did not ask about who was injured and the magnitude of injury. The list goes on. In spite of all these shortcomings on the part of the CTS, our analyses have revealed the feasibility of what some, e.g., Brush (1990), have thought was impossible with survey data based on the CTS: revelation of the fact males' physical violence against women is a strong instigator of females' violence and so much females' physical violence is a reponse to males' physical violence. This discovery has several important implications. First, this information has always been embedded in the data. The only reason previous researchers could not get at it is that they were not using the appropriate methodological tools. Second, it validates our methodological argument that one does not need to measure all the empirical manifestations of a latent construct to make valid inferences about causality. Third, it substantiates our argument that the methodological consequences of under-reporting of violence, especially on the part of males, has been grossly exaggerated. Fourth, it provides evidence that data deriving from random sample surveys, even if they are not explicitly feminist, are capable of providing empirical support for theoretical arguments emanating from the feminist paradigm. Fifth, it challenges Yllo and Straus' (1992) contention that micro-level indicators are incapable of measuring the concept of patriarchy and its social ramifications.

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[33] We are here talking about the items on the CTS.We are not suggesting that the ALL the items on the CTS can be collapsed into a single scale. As we have previously pointed out, this analysis has shown that the items measuring physical and psychological violence do not belong to the same conceptual space. As a result it will be inappropriate to collapse them into one scale.

Our research results have also made another important methodological point. They contradict Williams' (1992:525) contention that '... path analysis and the utilization of other procedures for estimating structural equation models, e.g., LISREL, are premature at this point [in domestic violence research], given the mixed levels of measurement and the need to explore alternative indices and modifications of theory'. We have used LISREL and path analytic techniques on cross-sectional data and have derived knowledge which is theoretically meaningful. This research has also demonstrated the immense utility of LISREL in the exploration and development of alternative indices of theoretical concepts. A few examples will illustrate the point. The use of multiple indicators of latent concepts has enabled us to arrive at the realization that indices of physical and psychological violence are not measuring the same phenomenon, as the general theory postulates. Second, the use of modification indices and so-called data-driven modifications have afforded us the realization that wives' reports of violence is, in large measure, a report of their husbands' violence[34]. In other words, an alternative way of finding out if a man is violent towards the wife is asking the wife if she has engaged in acts of physical violence against the husband. We could not have uncovered these pieces of information without the unique methodological capabilities afforded us by LISREL.

All the above notwithstanding, LISREL has furnished us with the capability of testing theories in competition with one another and thus nudged us a step closer to the resolution of some theoretical controversies. For example, while it seems appropriate to blame much of the physical violence in conjugal unions on the patriarchal social system, the results of this research suggest that patriarchy, as a blanket concept, is not a useful analytic tool. We examined two theoretical ideas based on the concept of patriarchy: first, the idea that patriarchal societies socialize men to be 'macho' and, second, the idea that patriarchal societies socialize men to expect to be the final legislative authorities in their homes. As we have seen, it is the power dimension of patriarchy that is relevant for the explanation of domestic violence. Once again, we could not have uncovered these facts without the unique methodological capabilities afforded us by LISREL. So where do we go from here?

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[34] We are here refering to LY(6,6)=1.149 in the physical violence model for males.

What are the implications of this research for public policy? First, the deterrence literature has shown that a policy of mandatory arrest is not likely to be effective in reducing domestic violence since arrests do not appear to deter many people from beating their spouses. Second, we have found stress not to be a major player among the factors responsible for domestic violence. As a result, stress/strain reduction policies are not likely to result in fewer incidents of domestic violence. Clearly, the most promising public policy option is the education of men to come to the realization that their wives are equal and important parts of the families and that women have legitimate stakes in decision making within the household.

While the results of this research are interesting in their own right, the novelty of many of the findings require that they be subjected to the cardinal rule of science: the rule of independent replication. Especially interesting for further research is the role of males' alcoholism on their own violence and on female violence. That males' alcoholism affects women's physical violence rather than their own defies the boundaries of what we would consider 'normal'. It definitely warrants some more scrutiny and explanation. We suspect that we are missing an important intervening variable in that causal sequence. That variable needs to be thought out and modelled. Another issue that needs to be investigated is the causal relationship between physical and psychological violence. We have tried to model the reciprocal relationships between husbands' and wives' physical and psychological violence separately. It should be interesting to find what other reactions there are to males and females physical and psychological violence. Last, but not the least, the non-significance of some of our structural coefficients might be due to interaction[s] of our hypothesized causal paths with ethnicity, geography, religion or social class. In other words, future research will need to specify the conditions under which conclusions based on this research will hold.

As this thesis draws to an end, it is worthwhile, we believe, to point to a number of limitations that may compromise the results of this research. First, in spite of all the justifications of the cross-sectional data we have used, cross-sectional data only second guess the questions of temporal and causal order. The strong case in favour of cross-sectional research notwithstanding, we will never know, for sure, if longitudinal and panel data will make a difference in domestic violence research until we have actually carried out the research. We, however, maintain a healthy scepticism towards the much touted superiority of longitudinal data. Data archives are now full of longitudinal data sets but it is doubtful if they have provided new insights over and above what we know from research based on cross-sectional data. Second, as pointed out earlier in the thesis, only sixty-five percent of the respondents in the 1975 survey provided responses to the conflict tactics scale. This is the major factor underlying the fairly high level of sample attrition during the listwise deletion of cases with missing data. The 1985 re-survey which is a partial replication of the 1975 survey, fortunately, has an 85% response rate. It will be interesting to see if a replication of our research using those data will uncover any bias[es] in our findings. Let us bear in mind, though, that the 1985 survey had a different focus from the 1975 one.

We have previously noted [i.e in Chapter Two] some difficulties with our parental discipline variables and the suggestion that physical punishment has a very high likelihood of having the undesirable effect of decreasing self-control. Although the data do not support our proposition that physical punishment should induce high self-control, there was no evidence that physical punishment weakened self-control. The causal ineffectiveness of the physical punishment variables can be due to a number of factors. The obvious one is that perhaps, the indicators are simply bad. On the other hand, as we noted a few paragraphs ago, Hirschi has drawn a distinction between 'punishment' and 'effective punishment'. That you simply spank the children is not sufficient to induce self-control. Several other things must accompany punishment for it to have the desired effect: consistency, follow up, parental ability to practice what they teach the children etc. We have no way of knowing which of these possibilities is responsible for the statistical insignificance of the causal paths emanating from the physical punishment variables.

In any case, our self-control variables had no such problems and their inability to exert significant causal influences on the dependent variable, violence, cannot be blamed on the weakness or otherwise of the punishment variables. Perhaps, it is instructive to recall that the self-control variables exerted influences in other exceptions except on violence. This is indication that our operationalization of self-control has some merit. We hasten to add that our indicators of self-control do not cover the entire universe of possibilities. The same is true for parental discipline. Unfortunately, our data do not leave us much choice. Future researchers, in research designed specifically to test the general theory, should measure alternative forms of parental discipline and self control so they can sort out which of them is of explanatory relevance for the general theory.

As Keane et al.'s (1993) research has demonstrated, and Hirschi and Gottfredson (1993) agree, there is a case to be made for measures of crime and self-control that are independent of self-reports. Future research should pursue such measures since, to a very large extent, the quality of research depends on the quality of measures of key constructs. Finally, Hirschi and Gottfredson are contending that '... given the distribution of self-control assumed by the theory (highly skewed towards low-self-control), ordinary sampling theory would suggest stratified disproportionate sampling to ensure sufficient numbers of low self-control subjects. General population samples [such as ours], especially samples of adults, would have difficulty in producing adequate variation on the dependent variable' (Hirschi and Gottfredson, 1993:48). It will helpful if these limitations are borne in mind as we ponder the results and implications of this research.

TABLE 3.1

VARIANCES, COVARIANCES, AND MEANS OF INDICATOR VARIABLES
(PHYSICAL VIOLENCE - MALES)

	SDISCUSS	SSPANKS	RINCOME	RSPANKS	SSLAP	SKICK	RSLAP	RKICK	BABY	WORK	DRUNK	ACHIEVER	MONEY	DADHIT	MOMHIT	DADSPANK	MOMSPANK
SPDISCUSS	80.668																
SSPANKS	12.314	68.074															
RINCOME	2.760	-1.098	7.204														
RSPANKS	12.879	43.499	-1.712	68.921													
SSLAP	0.397	2.498	-0.606	1.906	2.680												
SKICK	-0.687	1.886	-0.604	0.901	2.218	3.169											
RSLAP	-0.300	0.282	-0.097	0.122	0.291	0.484	0.210										
RKICK	-0.188	0.488	-0.134	0.182	0.398	0.788	0.214	0.412									
BABY	0.164	0.068	-0.032	-0.320	0.036	0.159	0.039	0.044	0.313								
WORK	-0.210	0.682	-0.018	0.318	0.038	0.146	0.021	0.029	0.028	0.660							
DRUNK	-0.203	0.901	-0.080	0.746	0.394	0.273	0.039	0.006	-0.008	0.064	-0.714						
ACHIEVER	0.668	0.363	0.268	0.310	-0.042	0.002	0.003	0.011	0.048	0.063	-0.069	1.182					
MONEY	3.826	1.618	8.384	-1.709	-0.469	-0.479	0.002	0.009	-0.073	0.160	-0.338	0.341	18.228				
DADHIT	-0.866	-1.369	-0.832	-1.797	0.308	0.763	0.161	0.223	0.023	0.039	-0.131	0.014	-0.585	7.337			
MOMHIT	1.028	-0.831	-0.098	-1.336	0.163	0.316	0.078	0.109	0.087	0.072	-0.084	-0.020	-0.297	5.800	7.109		
DADSPANK	3.969	-1.388	-2.183	1.178	0.020	-0.017	0.269	0.065	-0.081	-0.871	-0.562	-0.081	-2.347	4.287	3.128	47.934	
MOMSPANK	10.978	7.603	-1.087	6.668	0.333	0.217	0.180	0.007	0.294	-0.601	-0.596	-0.027	-1.664	4.214	6.603	22.044	49.212
MEANS	10.736	4.363	8.110	4.611	0.186	0.206	0.148	0.084	-0.032	-0.089	1.606	4.881	4.899	0.835	0.491	3.730	4.178

TABLE 3.2

VARIANCES, COVARIANCES, AND MEANS OF INDICATOR VARIABLES
(PHYSICAL VIOLENCE - FEMALES)

	SDISCUSS	SSPANKS	RINCOME	RSPANKS	SSLAP	SKICK	RSLAP	RKICK	BABY	WORK	DRUNK	ACHIEVER	MONEY	DADHIT	MOMHIT	DADSPANK	MOMSPANK
SPDISCUSS	66.007																
SSPANKS	8.256	64.482															
RINCOME	3.768	2.070	6.584														
RSPANKS	10.736	36.638	-1.690	38.080													
SSLAP	-0.048	0.101	-0.072	0.298	0.237												
SKICK	0.023	0.086	-0.012	0.083	0.012	0.027											
RSLAP	-0.718	0.080	-0.343	0.136	0.024	0.010	2.084										
RKICK	-0.136	-0.286	-0.148	-0.118	0.006	0.018	0.768	0.453									
BABY	0.349	0.106	-0.082	-0.362	0.008	0.001	-0.063	-0.023	0.443								
WORK	-0.328	-0.223	0.007	-0.268	-0.048	0.012	0.041	0.043	0.081	0.710							
DRUNK	0.079	0.218	-0.178	0.364	0.023	0.008	0.284	0.086	-0.098	-0.064	0.964						
ACHIEVER	0.976	-0.436	0.680	-0.066	0.008	-0.008	-0.112	0.003	0.080	-0.094	-0.087	0.878					
MONEY	6.666	-0.073	8.873	-0.089	-0.113	-0.008	-0.143	-0.102	-0.046	0.040	-0.323	0.800	12.688				
DADHIT	-0.834	0.389	-1.199	-0.931	0.046	0.028	1.182	0.602	0.038	0.040	0.081	0.001	-0.863	18.221			
MOMHIT	-1.288	-0.762	-1.608	-1.828	0.012	0.012	-0.027	-0.028	0.087	0.022	0.441	0.083	-0.883	3.468	8.780		
DADSPANK	3.122	3.776	-1.294	3.081	0.079	0.070	-0.018	-0.048	0.041	0.079	0.048	-0.086	-1.138	6.342	0.301	22.687	
MOMSPANK	6.886	3.638	-0.622	1.890	-0.024	-0.022	-0.178	-0.036	0.113	0.183	0.128	0.061	-0.629	2.819	4.221	10.083	36.801
MEANS	11.876	6.961	8.083	3.631	0.121	0.076	0.236	0.113	-0.041	-0.136	1.811	5.191	4.867	0.874	0.637	1.888	3.817

TABLE 3.3: MAXIMUM LIKELIHOOD PARAMETER ESTIMATES
(PHYSICAL VIOLENCE - MALES)

LAMBDA Y (MALES)

	LATENT VARIABLES															
INDICATOR VARIABLES	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R^2	Theta*** Epsilon
SDISCUSS	1.0														0.900	8.068
SSPANKS		1.0													0.990	0.058
RINCOME			1.0												0.950	0.362
RSPANKS				1.0											0.950	2.946
SSLAP					1.131**										0.783	0.559
SKICK		-0.019**			1.0	1.149***									0.918	0.258
RSLAP						0.536**									0.562	0.092
RKICK						1.00	-0.154***								0.949	0.021
BABY							1.0								0.901	0.031
WORK							0.014								0.005	0.657
DRUNK								1.0							0.901	0.071
ACHIEVER									1.0						0.900	0.118
MONEY										1.0					0.950	0.811
DADHIT											1.0				0.950	0.368
MOMHIT												1.0			0.950	0.355
DADSPANK													1.0		0.950	2.396
MOMSPANK														1.0	0.950	2.460

NOTES: ** $T \geq 2.0$

*** Error Covariance (Theta Epsilon) between SKICK and DADHIT = 0.187

* Coefficient was added to improve model fit

TABLE 3.3, CONTINUED BETA (MALES)

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter Parental Violence (2)	Inter Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R^2	PS1
PREFERS DISCUSSION															0.000	72.590
SPANKS CHN(S)								0.608**							0.003	56.858
RESPONDENT INCOME															0.000	6.843
SPANKS CHN (R)															0.000	55.973
SPOUSAL VIOLENCE	0.00	0.024**				0.883**	0.084	0.435**·							0.296	1.809
RESPONDENT VIOLENCE			-0.015	0.005	-0.012		0.315**	0.017	0.005		-0.032**·				0.074	0.382
DECISION MAKING POWER								-0.009	0.047	-0.005					0.010	0.280
ALCOHOL									-0.056		-0.010	0.006	-0.008	-0.009	0.021	0.630
ACHIEVEMENT MOTIVATION			1.218**·								0.011	-0.011	-0.002	0.001	0.000	1.064
ECONOMIC POWER								0.420**	-0.010						0.668	5.097

NOTES: * T ≥ 1.5

** T ≥ 2.0

· This coefficient was added to improve model fit

TABLE 3.3, CONTINUED   ERROR AND EXOGENOUS VARIABLES' COVARIATES (PSI) (MALES)**

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Inter Parental Violence (2)	Inter Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)
PREFERS DISCUSSION	72.590							
SPANKS CHN(S)	12.266	56.859						
RESPONDENT INCOME	2.789	-1.040	6.843					
SPANKS CHN (R)	12.969	42.806	-1.666	55.973				
INTER-PARENTAL VIOLENCE (2)	-0.840	-1.370	-0.604	-1.772	6.944			
INTER-PARENTAL VIOLENCE (1)	1.026	-0.677	-0.113	-1.337	5.784	6.754		
PHYSICAL PUNISHMENT (2)	3.958	-1.056	-2.158	1.152	4.327	3.126	45.538	
PHYSICAL PUNISHMENT (1)	10.982	8.061	-1.115	5.635	4.189	5.503	22.044	46.752

TABLE 3.4: MAXIMUM LIKELIHOOD PARAMETER ESTIMATES
(PHYSICAL VIOLENCE - FEMALES)

LAMBDA Y (FEMALES)

	LATENT VARIABLES															
INDICATOR VARIABLES	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter Parental Violence (2)	Inter Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R^2	Theta*** Epsilon
SDISCUSS	1.0														0.980	1.720
SSPANKS		1.0													0.980	1.283
RINCOME			1.0												0.950	0.329
RSPANKS				1.0											0.990	0.381
SSLAP					0.488**										0.026	0.231
SKICK					1.0										0.950	0.001
RSLAP						1.762**									0.656	0.711
RKICK						1.0									0.950	0.023
BABY							1.0								0.900	0.044
WORK							0.227**								0.029	0.690
DRUNK								1.0							0.900	0.095
ACHIEVER									1.0						0.900	0.088
MONEY										1.0					0.950	0.633
DADHIT											1.0				0.950	0.811
MOMHIT												1.0			0.950	0.438
DADSPANK													1.0		0.950	1.134
MOMSPANK														1.0	0.950	1.845

NOTES: ** T ≥ 2.0

TABLE 3.4, CONTINUED BETA (FEMALES)

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R²	PS1
PREFERS DISCUSSION															0.000	84.287
SPANKS CHN(S)															0.000	63.169
RESPONDENT INCOME									0.677**·						0.058	5.839
SPANKS CHN (R)															0.000	37.679
SPOUSAL VIOLENCE	0.000	0.001					0.001								-0.015	0.026
RESPONDENT VIOLENCE			-0.018	-0.006	0.883**·	-0.012	-0.554	0.093	0.029		0.029**·				0.087	0.399
DECISION MAKING POWER								-0.113**	-0.071**	-0.011					0.041	0.382
ALCOHOL									-0.092		-0.011	0.050	0.005	-0.004	0.036	0.828
ACHIEVEMENT MOTIVATION											-0.001	0.010	-0.004	-0.002	0.001	0.787
ECONOMIC POWER			1.099**·					-0.163	-0.058						0.625	4.487

NOTES: * T ≥ 1.5

** T ≥ 2.0

· This coefficient was added to improve model fit

TABLE 3.4, CONTINUED EXOGENOUS' VARIABLES COVARIANCES (PSI) (FEMALES)***

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Inter Parental Violence (2)	Inter Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)
PREFERS DISCUSSION	84.287							
SPANKS CHN(S)	8.256	63.169						
RESPONDENT INCOME	3.278	1.655	5.839					
SPANKS CHN (R)	10.735	35.541	-1.436	37.679				
INTER-PARENTAL VIOLENCE (2)	-0.939	0.380	-1.175	-0.935	15.411			
INTER-PARENTAL VIOLENCE (1)	-1.258	0.748	-0.661	-1.613	3.447	8.322		
PHYSICAL PUNISHMENT (2)	3.118	3.782	-1.227	3.095	5.327	0.300	21.553	
PHYSICAL PUNISHMENT (1)	6.887	3.633	-0.551	1.886	2.513	4.221	10.083	35.056

TABLE 4.1

VARIANCES, COVARIANCES, AND MEANS OF INDICATOR VARIABLES (MALES)

	SDISCUSS	SSPANKS	RINCOME	RSPANKS	SSPITE	SINSULT	RSPITE	RINSULT	BABY	WORK	DRUNK	ACHIEVER	MONEY	DADHIT	MOMHIT	DADSPANK	MOMSPANK
SDISCUSS	88.007																
SSPANKS	8.266	84.462															
RINCOME	3.789	-2.070	8.684														
RSPANKS	10.736	36.638	-1.880	38.060													
SSPITE	-0.869	6.993	-1.329	8.877	32.612												
SINSULT	-1.426	7.774	-1.034	4.282	23.274	42.984											
RSPITE	-1.892	2.608	-0.876	4.876	21.311	17.224	36.284										
RINSULT	0.741	6.720	-0.664	5.180	21.907	32.486	28.384	63.382									
BABY	0.349	0.108	-0.092	-0.362	-0.032	-0.281	-0.289	-0.246	0.443								
WORK	-0.328	-0.223	0.007	-0.258	-0.208	-0.470	-0.837	-0.834	0.091	0.710							
DRUNK	0.079	0.219	-0.176	0.364	0.938	0.986	1.688	2.278	-0.098	-0.064	0.964						
ACHIEVER	0.876	-0.436	0.680	-0.066	-0.197	-0.604	-0.127	0.168	0.080	-0.094	-0.067	0.878					
MONEY	6.666	-0.073	8.873	-0.089	-1.427	-2.690	-1.131	-1.040	-0.046	0.040	-0.323	0.800	12.088				
DADHIT	-0.934	0.389	-1.199	-0.931	0.128	0.669	1.016	-0.482	0.039	0.040	0.061	0.001	-0.863	18.221			
MOMHIT	-1.288	-0.752	-0.808	-1.826	0.871	0.133	1.812	1.176	0.067	0.022	0.441	0.083	-0.893	3.458	8.780		
DADSPANK	3.122	3.776	-1.284	3.001	3.424	2.710	1.667	2.423	0.041	0.079	0.048	-0.086	-1.138	6.342	0.301	22.887	
MOMSPANK	0.888	3.838	-0.822	1.880	4.213	1.928	1.026	1.490	0.113	0.183	0.128	0.061	-0.628	2.618	4.221	10.083	38.801
MEANS	10.738	4.363	8.110	4.611	2.241	2.638	2.308	3.169	-0.032	-0.088	1.606	4.881	4.688	0.836	0.491	3.730	4.178

TABLE 4.2

VARIANCES, COVARIANCES, AND MEANS OF INDICATOR VARIABLES (FEMALES)

	SDISCUSS	SSPANKS	RINCOME	RSPANKS	SSPITE	SINSULT	RSPITE	RINSULT	BABY	WORK	DRUNK	ACHIEVER	MONEY	DADHIT	MOMHIT	DADSPANK	MOMSPANK
SDISCUSS	80.868																
SSPANKS	12.314	68.074															
RINCOME	2.780	1.098	7.204														
RSPANKS	12.979	43.490	-1.712	68.921													
SSPITE	2.096	9.803	-0.497	8.778	18.372												
SINSULT	2.850	14.858	-0.983	10.784	10.149	28.202											
RSPITE	3.830	7.264	0.268	7.126	10.835	8.208	18.702										
RINSULT	8.773	10.848	-0.168	8.087	9.762	20.904	12.028	32.384									
BABY	0.194	0.068	-0.032	-0.320	0.172	0.263	0.438	0.437	0.313								
WORK	-0.210	0.682	-0.018	0.318	0.080	0.048	-0.068	-0.112	0.028	0.860							
DRUNK	-0.203	0.901	-0.080	0.746	0.108	0.804	0.273	1.188	-0.008	0.084	0.714						
ACHIEVER	0.668	0.353	0.288	0.310	-0.093	0.229	0.240	0.329	0.048	0.063	-0.068	1.182					
MONEY	3.825	1.818	8.364	-1.708	-0.476	-0.388	0.808	0.196	-0.073	0.160	-0.338	0.341	18.228				
DADHIT	-0.966	-1.388	-0.832	-1.797	0.407	0.961	0.883	0.720	0.023	0.038	-0.131	0.014	-0.686	7.337			
MOMHIT	1.028	-0.831	-0.098	-1.335	0.222	0.565	0.153	-0.038	0.087	0.072	-0.084	-0.020	-0.287	5.800	7.100		
DADSPANK	3.868	1.368	-2.183	1.178	3.748	2.298	1.602	7.026	-0.081	-0.071	-0.682	-0.081	-2.347	4.287	3.128	47.934	
MOMSPANK	10.878	7.603	-1.087	6.868	0.820	2.298	2.017	3.380	0.284	-0.601	-0.688	-0.027	-1.384	4.214	8.603	22.044	48.212
MEANS	11.875	5.981	8.083	3.631	3.187	3.699	2.670	3.288	-0.041	-0.138	1.811	5.181	4.867	0.874	0.637	1.888	3.187

TABLE 4.3: MAXIMUM LIKELIHOOD PARAMETER ESTIMATES
(PSYCHOLOGICAL VIOLENCE - MALES)

LAMBDA Y (MALES)

	LATENT VARIABLES															
INDICATOR VARIABLES	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R^2	Theta*** Epsilon
SDISCUSS	1.0														0.800	16.136
SSPANKS		1.0													0.900	5.807
RINCOME			1.0												0.950	0.360
RSPANKS				1.0											0.900	5.892
SSPITE					1.0										0.800	3.647
SINSULT					0.695**										0.295	18.460
RSPITE						1.0									0.800	3.340
RINSULT						0.853**									0.336	21.504
BABY							1.0								0.952	0.015
WORK							0.093								0.004	0.658
DRUNK								1.0							0.850	0.107
ACHIEVER									1.0						0.850	0.177
MONEY										1.0					0.900	1.622
DADHIT											1.0				0.950	0.366
MOMHIT												1.0			0.950	0.355
DADSPANK													1.0		0.900	4.793
MOMSPANK														1.0	0.900	4.921

NOTES: ** T $\geq$ 2.0

*** NON-DIAGONAL ERROR COVARIANCES (THETA EPSILON)

RINSULT and SINSULT -	13.178
DADSPANK and RINSULT -	4.540
SINSULT and SSPANKS -	3.470
DADSPANK and SSPITE -	2.980
DRUNK and RINSULT -	1.015
DRUNK and SINSULT -	0.713

TABLE 4.3, CONTINUED BETA (MALES)

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physcal Punishment(2)	Physcal Punishment(1)	R^2	FS1
PREFERS DISCUSSION															0.000	64.518
SPANKS CHN(S)															0.000	51.245
RESPONDENT INCOME															0.000	6.844
SPANKS CHN (R)															0.000	53.031
SPOUSAL VIOLENCE	-0.013	0.156**				0.318**									0.467	7.716
RESPONDENT VIOLENCE			0.086	0.039	0.572**		1.127**	0.277	0.152						0.619	5.004
DECISION MAKING POWER								-0.017	0.048*	-0.006					0.001	0.295
ALCOHOL									-0.065		-0.030	0.025	-0.007	-0.012	0.031	0.584
ACHIEVEMENT MOTIVATION									0.002		0.012	-0.013	-0.000	0.000	0.000	1.005
ECONOMIC POWER			1.220**					-0.451**							0.706	4.265

NOTES: * T ≥ 1.5

** T ≥ 2.0

TABLE 4.3, CONTINUED EXOGENOUS VARIABLES' COVARIANCES (PSI) (MALES)

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)
PREFERS DISCUSSION	64.518							
SPANKS CHN(S)	12.665	51.245						
RESPONDENT INCOME	2.798	-0.781	6.844					
SPANKS CHN (R)	13.028	42.713	-1.669	53.031				
INTER-PARENTAL VIOLENCE (2)	-0.974	-1.488	-0.619	-1.791	6.971			
INTER-PARENTAL VIOLENCE (1)	1.014	-0.959	-0.115	-1.328	5.800	6.754		
PHYSICAL PUNISHMENT (2)	3.046	-1.528	2.160	1.746	4.387	3.268	43.199	
PHYSICAL PUNISHMENT (1)	11.011	7.304	-1.114	5.642	4.214	5.503	22.148	44.293

TABLE 4.4: MAXIMUM LIKELIHOOD PARAMETER ESTIMATES
(PSYCHOLOGICAL VIOLENCE - FEMALES)

LAMBDA Y (FEMALES)

	LATENT VARIABLES															
INDICATOR VARIABLES	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R^2	Theta*** Epsilon
SDISCUSS	1.0														0.950	
SSPANKS		1.0													0.910	
RINCOME			1.0												0.945	
RSPANKS				1.0											0.950	
SSPITES					1.0										0.887	
SINSULT															0.438	
RSPITE					0.804**	1.0									0.811	
RINSULT						1.012**									0.544	
BABY							1.0								0.966	
WORK							0.213**								0.027	
DRUNK								1.0							0.888	
ACHIEVER									1.0						0.798	
MONEY										1.0					0.872	
DADHIT											1.0				0.950	
MOMHIT												1.0			0.950	
DADSPANK													1.0		0.950	
MOMSPANK														1.0	0.950	

NOTES: ** T $\geq$ 2.0

*** Off Diagonal Error Covariances: RINSULT and SINSULT = 14.818
(Theta Epsilon)

TABLE 4.4, CONTINUED BETA (FEMALES)

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Spousal Violence	Respondent Violence	Decision Making Power	Alcohol	Achievement Motivation	Economic Power	Inter-Parental Violence (2)	Inter-Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)	R²	PS1
PREFERS DISCUSSION															0.000	81.708
SPANKS CHN(S)															0.000	58.640
RESPONDENT INCOME									0.807**·						0.075	5.612
SPANKS CHN (R)							-1.049**·								0.013	35.880
SPOUSAL VIOLENCE	-0.016	0.079**				0.572**	0.131								0.546	13.171
RESPONDENT VIOLENCE			-0.054	0.070*	0.318**		-0.090	1.756**	0.315						0.483	14.637
DECISION MAKING POWER								-0.114**	0.084*	-0.014*					0.041	0.410
ALCOHOL									-0.105		-0.011	0.061**	0.006	-0.005	0.040	0.814
ACHIEVEMENT MOTIVATION											-0.002	0.009	-0.004	0.002	0.002	0.698
ECONOMIC POWER									0.866**						0.047	10.539

NOTES: * T ≥ 1.5

** T ≥ 2.0

· This coefficent was added to improve model fit

TABLE 4.4, CONTINUED ERROR AND EXOGENOUS VARIABLES' COVARIANCES (PSI) (FEMALES) ***

	Prefers Discussion	Spanks CHN(S)	Respondent Income	Spanks CHN(R)	Inter Parental Violence (2)	Inter Parental Violence (1)	Physical Punishment(2)	Physical Punishment(1)
PREFERS DISCUSSION	81.708							
SPANKS CHN(S)	8.254	58.640						
RESPONDENT INCOME	0.577	-1.901	5.612					
SPANKS CHN (R)	11.072	35.661	-1.609	35.880				
INTER-PARENTAL VIOLENCE (2)	-0.938	0.389	-0.706	-0.893	15.410			
INTER-PARENTAL VIOLENCE (1)	-1.257	-0.753	-0.278	-1.554	3.458	8.322		
PHYSICAL PUNISHMENT (2)	3.110	3.836	-0.683	3.141	5.342	0.301	21.553	
PHYSICAL PUNISHMENT (1)	8.875	3.714	-0.266	2.004	2.519	4.221	10.083	35.056

*** Error Covariance (psi) between respondent income and Economic Power = 6.244.

Figure 2.3: A Conceptual Model of the Etiology of Inter-Spousal Violence

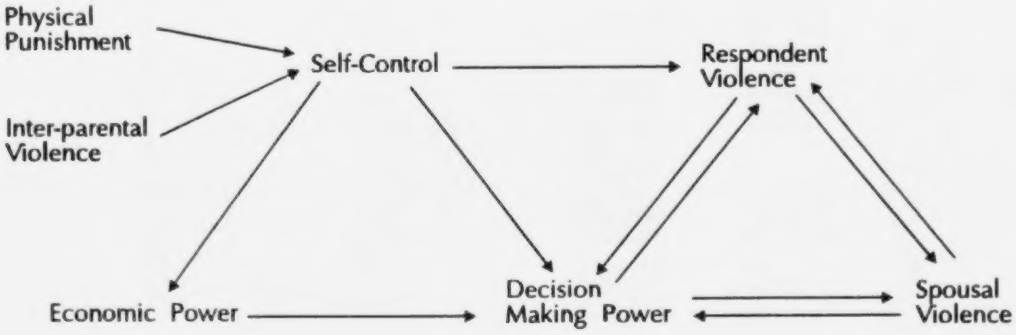

Physical Punishment
Inter-parental Violence
Self-Control
Economic Power
Respondent Violence
Decision Making Power
Spousal Violence

Figure 2.4: The Conflict Tactics Scales, Couple Form R[1]

ASK IN SEQUENCE Q35a Q36a AND (IF NEVER ON BOTH Q35a AND Q36a) ASK Q37a. THEN ASK Q35b, Q36B AND (IF NEVER ON BOTH Q35b AND Q36b) ASK Q37B. ETC.

Q35. No matter how well a couple get along, there are times when they disagree, get annoyed with the other person, or just have spats or fights because they're in a bad mood or tired or for some other reason. They also use many different ways of trying to settle their differences. I'm going to read some things that you and your (spouse/partner) might do when you have an argument. I would like you to tell me how many times (Once, Twice, 3-5 times, 6-10 times, 11-20 times, or more than 20 times) in the past 12 months you (READ ITEM)

Q36. Thinking back over the last 12 months you've been together, was there ever an occasion when (your spouse/partner) (READ ITEM)? Tell me how often (he/she).

Q37. (IF EITHER "NEVER" OR "DON'T KNOW" ON ITEM FOR BOTH Q35 AND Q36, ASK Q37 FOR THAT ITEM. Has it ever happened?

		Q35. Respondent in Past Year 1 - Once 2 - Twice 3 - 3-5 Times 4 - 6-10 Times 5 - 11-20 Times 6 - More than 20 0 - Never (don't read)	Q36. Spouse in Past Year 1 - Once 2 - Twice 3 - 3-5 Times 4 - 6-10 Times 5 - 11-20 Times 6 - More than 20 0 - Never (don't read)	Q37. For Items Marked "Never" on both Q35 and Q36. Has it Ever happened? 1 - Yes 0 - No
A.	Discussed an issue calmly	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
B.	Got information to back up your/his/her side of things	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
C.	Brought in, or tried to bring in someone to help settle things	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
D.	Insulted or swore at him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
E.	Sulked or refused to talk about an issue	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
F.	Stomped out of the room or house or yard	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
G.	Cried	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
H.	Did or said something to spite him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
I.	Threatened to hit or throw something at him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
J.	Threw or smashed or hit or kicked something	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
K.	Threw something at him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
L.	Pushed, Grabbed, or shoved him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
M.	Slapped him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
N.	Kicked, bit, or hit him/her/you with a fist	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
O.	Hit or tried to hit him/her/you with something	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
P.	Hit him/her/you up	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
Q.	Chocked him/her/you	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
R.	Threatened him/her/you with a knife or gun	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0
S.	Used a knife or fired a gun	1 2 3 4 5 6 0	1 2 3 4 5 6 0	1 0

---

[1] The question numbers are from the 1985 National Family Violence Resurvey interview schedule as given in the appendix to Gelles and Straus, 1988. The CTS is not copyrighted. Anyone may therefore use or modify it without permission. However, if you are thinking of using the instrument, write for papers which might apply to your proposed use. In addition I would appreciate copies of any reports using the CTS so that the bibliography can be updated for the benefit of other scholars.

Figure 2.5: Measurement Structure of Respondent and Spousal Violence

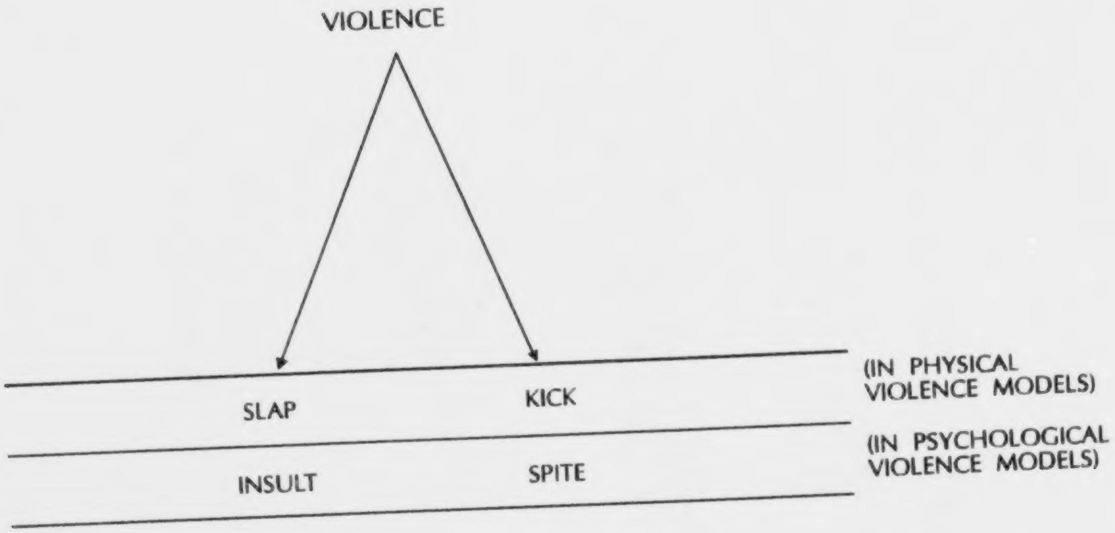
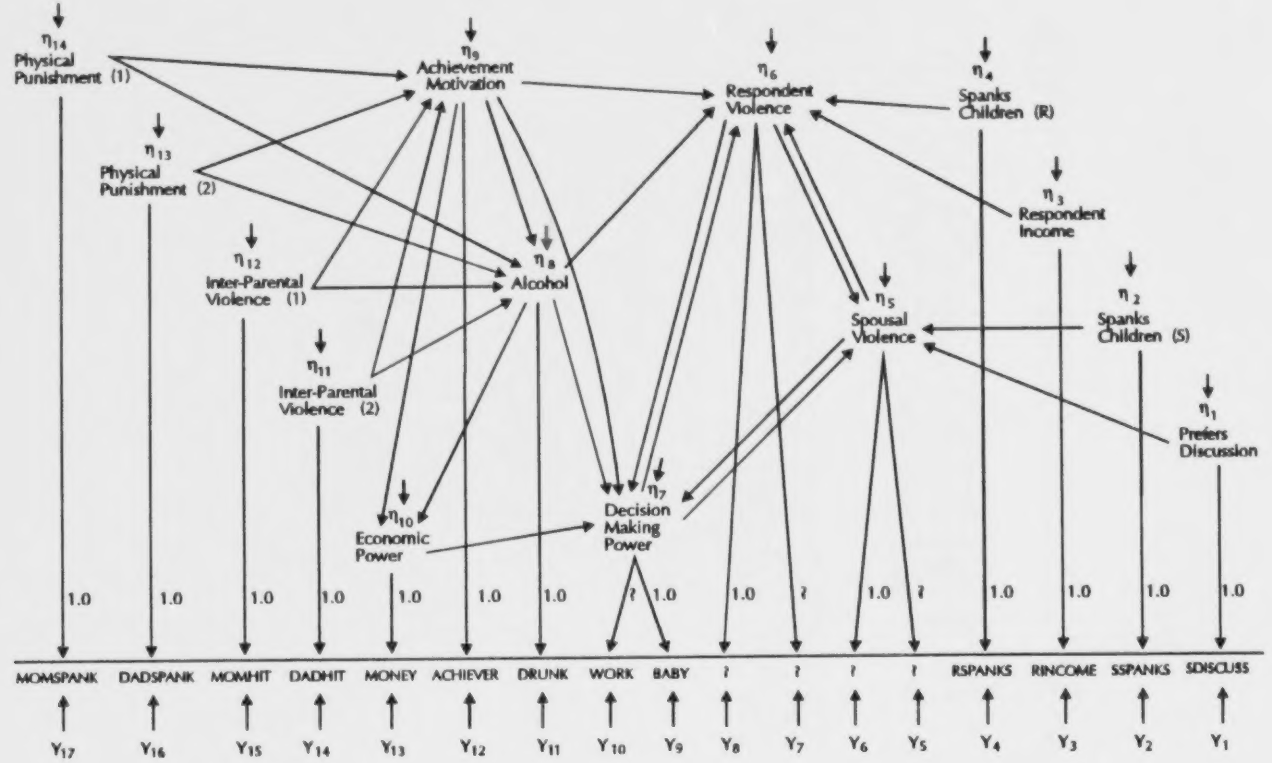

VIOLENCE
SLAP
KICK
(IN PHYSICAL VIOLENCE MODELS)
INSULT
SPITE
(IN PSYCHOLOGICAL VIOLENCE MODELS)

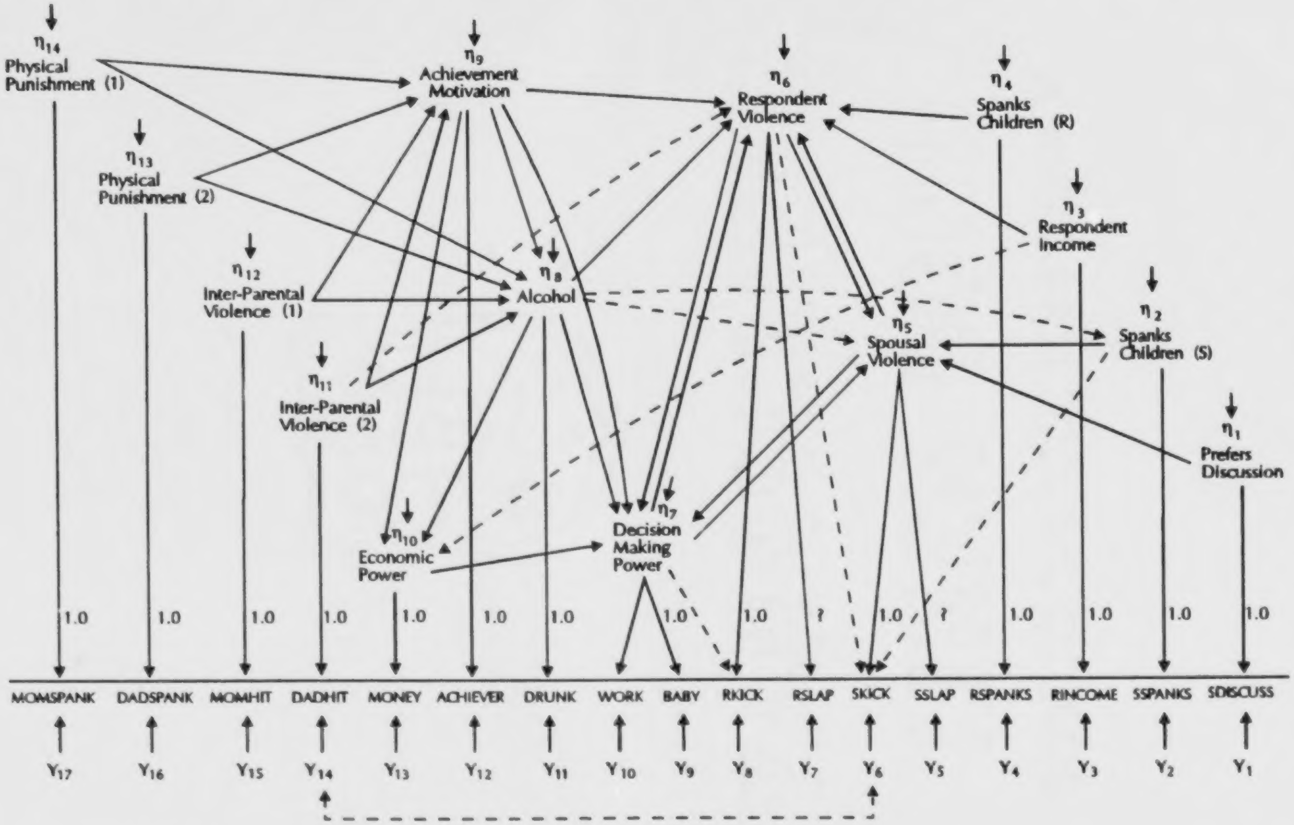
Figure 2.6: A Full Empirical Model of the Etiology of Inter-Spousal Violence*



η_{14} Physical Punishment (1)
η_{13} Physical Punishment (2)
η_{12} Inter-Parental Violence (1)
η_{11} Inter-Parental Violence (2)
η_{10} Economic Power
η_9 Achievement Motivation
η_8 Alcohol
η_7 Decision Making Power
η_6 Respondent Violence
η_5 Spousal Violence
η_4 Spanks Children (R)
η_3 Respondent Income
η_2 Spanks Children (S)
η_1 Prefers Discussion
1.0
?
MOMSPANK
DADSPANK
MOMHIT
DADHIT
MONEY
ACHIEVER
DRUNK
WORK
BABY
?
RSPANKS
RINCOME
SSPANKS
SDISCUSS
Y_{17}
Y_{16}
Y_{15}
Y_{14}
Y_{13}
Y_{12}
Y_{11}
Y_{10}
Y_9
Y_8
Y_7
Y_6
Y_5
Y_4
Y_3
Y_2
Y_1

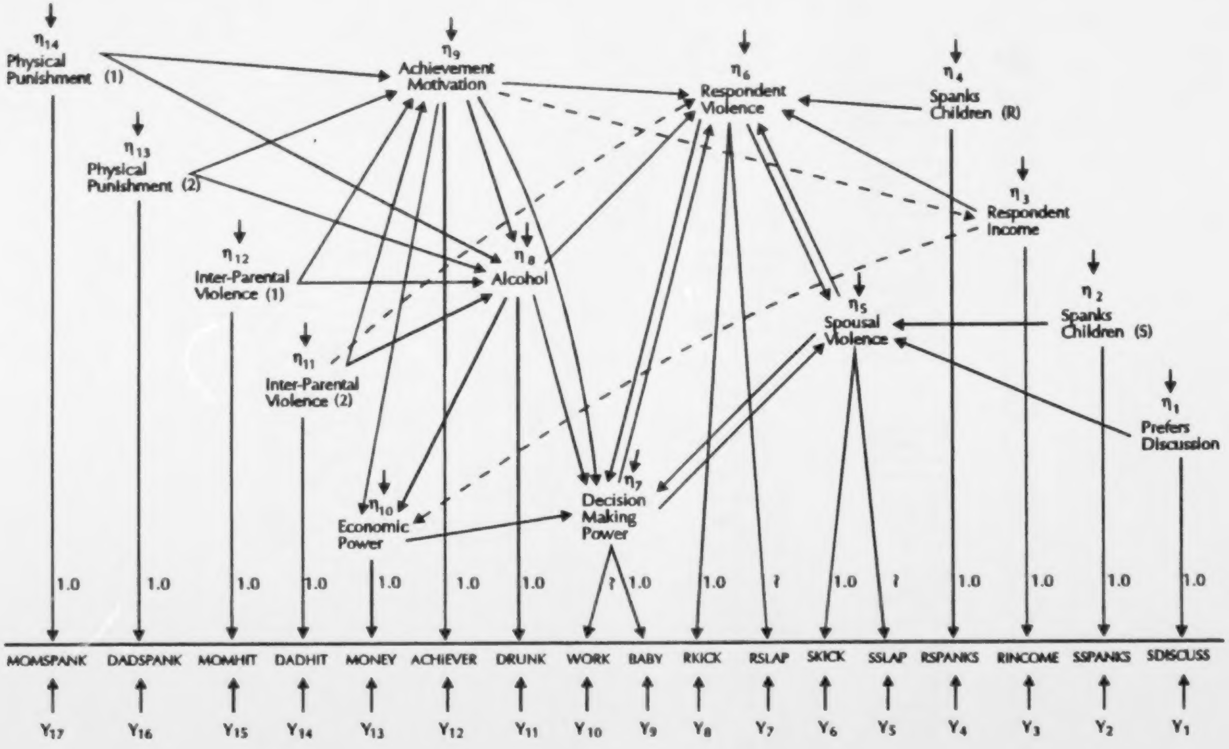
• To simplify this diagram, the covariances among the exogenous concepts (eta1 through eta4, and eta10 through eta14) have not been diagrammed even though these are part of the model.

Figure 3.1: Explaining Physical Violence (Males)*


η14
Physical Punishment (1)
η13
Physical Punishment (2)
η12
Inter-Parental Violence (1)
η11
Inter-Parental Violence (2)
η9
Achievement Motivation
η8
Alcohol
η10
Economic Power
η7
Decision Making Power
η6
Respondent Violence
η5
Spousal Violence
η4
Spanks Children (R)
η3
Respondent Income
η2
Spanks Children (S)
η1
Prefers Discussion
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
?
1.0
?
1.0
1.0
1.0
1.0
MOMSPANK
DADSPANK
MOMHIT
DADHIT
MONEY
ACHIEVER
DRUNK
WORK
BABY
RKICK
RSLAP
SKICK
SSLAP
RSPANKS
RINCOME
SSPANKS
SDISCUSS
Y17
Y16
Y15
Y14
Y13
Y12
Y11
Y10
Y9
Y8
Y7
Y6
Y5
Y4
Y3
Y2
Y1

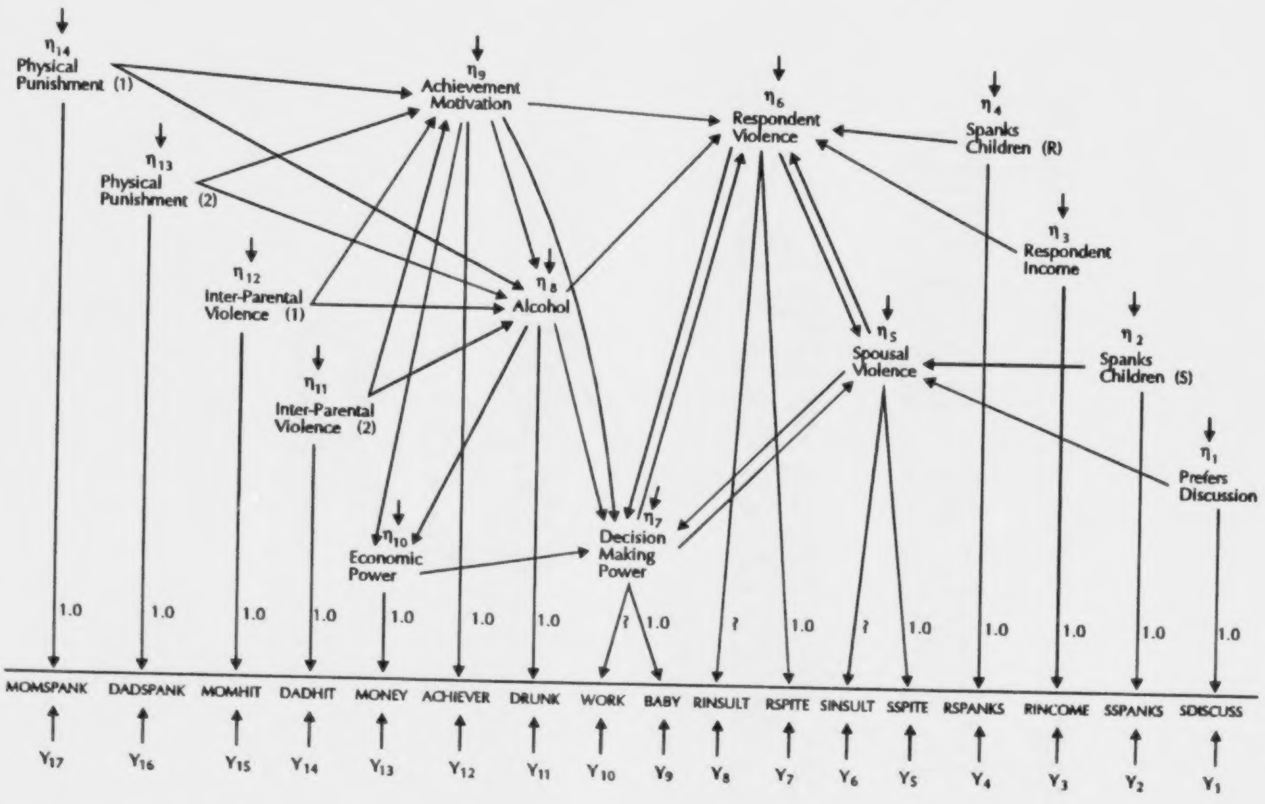
*NOTES: (1) Solid lines - original specifications
(2) Broken lines - data-driven modifications
(3) To simplify this diagram, the covariances among the exogenous concepts (eta1 through eta4, and eta10 through eta14) have not been diagrammed even though these are part of the model.

Figure 3.2: Explaining Physical Violence (Females)*


η_{14} Physical Punishment (1)
η_{13} Physical Punishment (2)
η_{12} Inter-Parental Violence (1)
η_{11} Inter-Parental Violence (2)
η_{10} Economic Power
η_9 Achievement Motivation
η_8 Alcohol
η_7 Decision Making Power
η_6 Respondent Violence
η_5 Spousal Violence
η_4 Spanks Children (R)
η_3 Respondent Income
η_2 Spanks Children (S)
η_1 Prefers Discussion
1.0
MOMSPANK
DADSPANK
MOMHIT
DADHIT
MONEY
ACHIEVER
DRUNK
WORK
BABY
RKICK
RSLAP
SKICK
SSLAP
RSPANKS
RINCOME
SSPANKS
SDISCUSS
Y_{17}
Y_{16}
Y_{15}
Y_{14}
Y_{13}
Y_{12}
Y_{11}
Y_{10}
Y_9
Y_8
Y_7
Y_6
Y_5
Y_4
Y_3
Y_2
Y_1

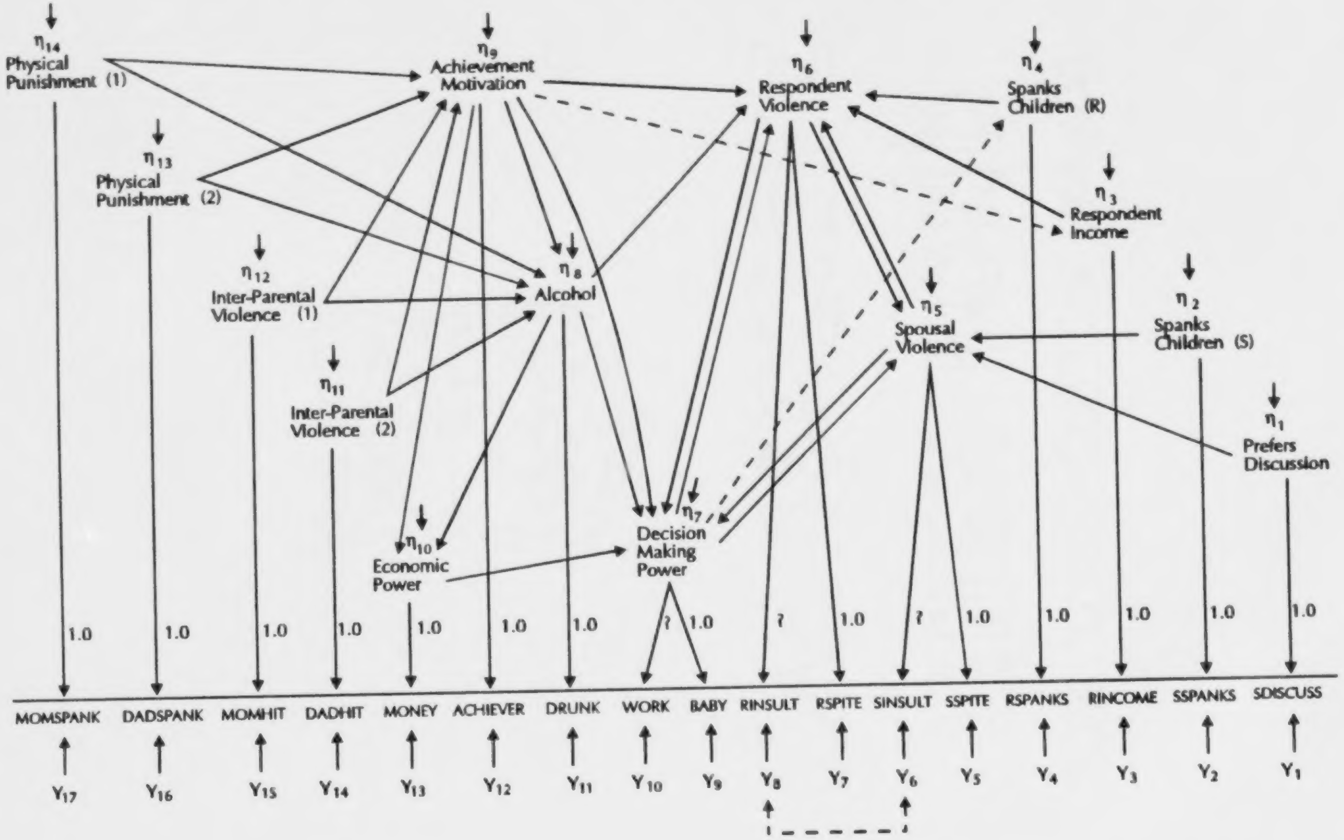
*NOTES: (1) Solid lines - original specifications
(2) Broken lines - data-driven modifications
(3) To simplify this diagram, the covariances among the exogenous concepts (eta1 through eta4, and eta10 through eta14) have not been diagrammed even though these are part of the model.

Figure 4.1: Explaining Psychological Violence (Males)*


η_{14} Physical Punishment (1)
η_{13} Physical Punishment (2)
η_{12} Inter-Parental Violence (1)
η_{11} Inter-Parental Violence (2)
η_{10} Economic Power
η_9 Achievement Motivation
η_8 Alcohol
η_7 Decision Making Power
η_6 Respondent Violence
η_5 Spousal Violence
η_4 Spanks Children (R)
η_3 Respondent Income
η_2 Spanks Children (S)
η_1 Prefers Discussion
1.0
?
MOMSPANK
DADSPANK
MOMHIT
DADHIT
MONEY
ACHIEVER
DRUNK
WORK
BABY
RINSULT
RSPITE
SINSULT
SSPITE
RSPANKS
RINCOME
SSPANKS
SDISCUSS
Y_{17}
Y_{16}
Y_{15}
Y_{14}
Y_{13}
Y_{12}
Y_{11}
Y_{10}
Y_9
Y_8
Y_7
Y_6
Y_5
Y_4
Y_3
Y_2
Y_1

*To simplify this diagram, the covariances among the exogenous concepts (eta1 through eta4, and eta10 thorugh eta14) have not been diagrammed even though these are part of the model.

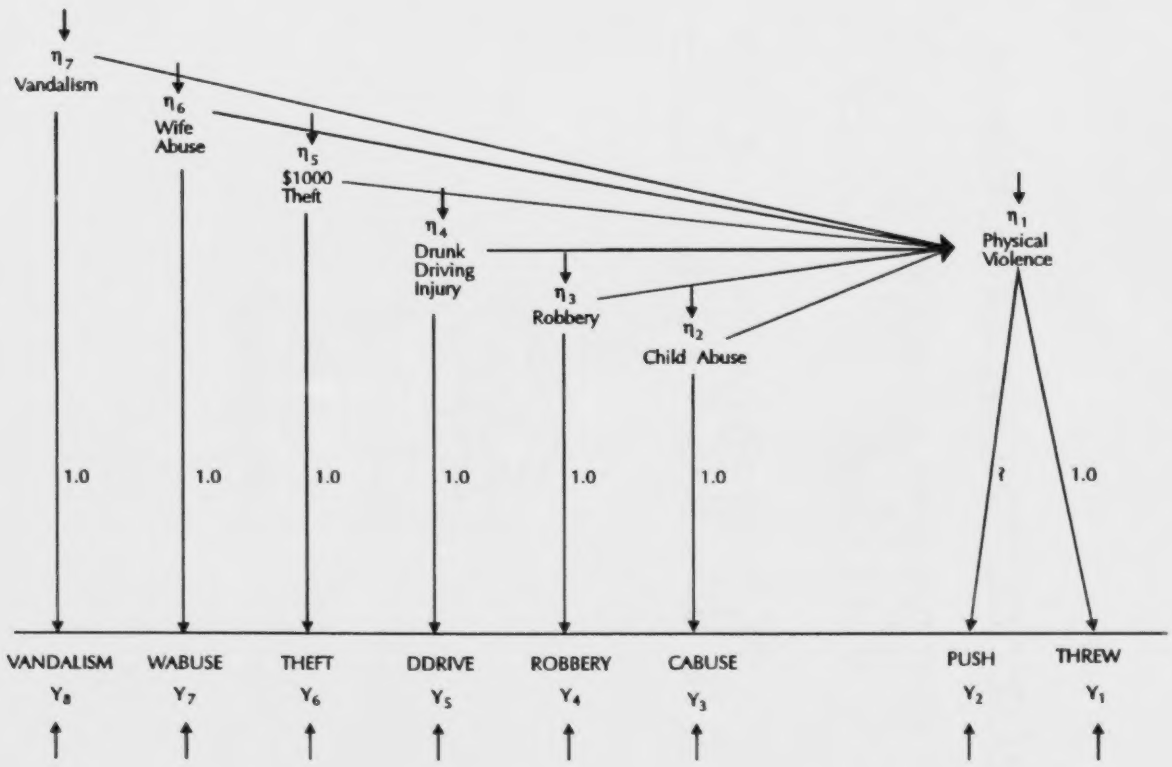
Figure 4.2: Explaining Psychological Violence (Females)*



η_{14} Physical Punishment (1)
η_{13} Physical Punishment (2)
η_{12} Inter-Parental Violence (1)
η_{11} Inter-Parental Violence (2)
η_{10} Economic Power
η_9 Achievement Motivation
η_8 Alcohol
η_7 Decision Making Power
η_6 Respondent Violence
η_5 Spousal Violence
η_4 Spanks Children (R)
η_3 Respondent Income
η_2 Spanks Children (S)
η_1 Prefers Discussion
1.0
?
MOMSPANK
DADSPANK
MOMHIT
DADHIT
MONEY
ACHIEVER
DRUNK
WORK
BABY
RINSULT
RSPITE
SINSULT
SSPITE
RSPANKS
RINCOME
SSPANKS
SDISCUSS
Y_{17}
Y_{16}
Y_{15}
Y_{14}
Y_{13}
Y_{12}
Y_{11}
Y_{10}
Y_9
Y_8
Y_7
Y_6
Y_5
Y_4
Y_3
Y_2
Y_1

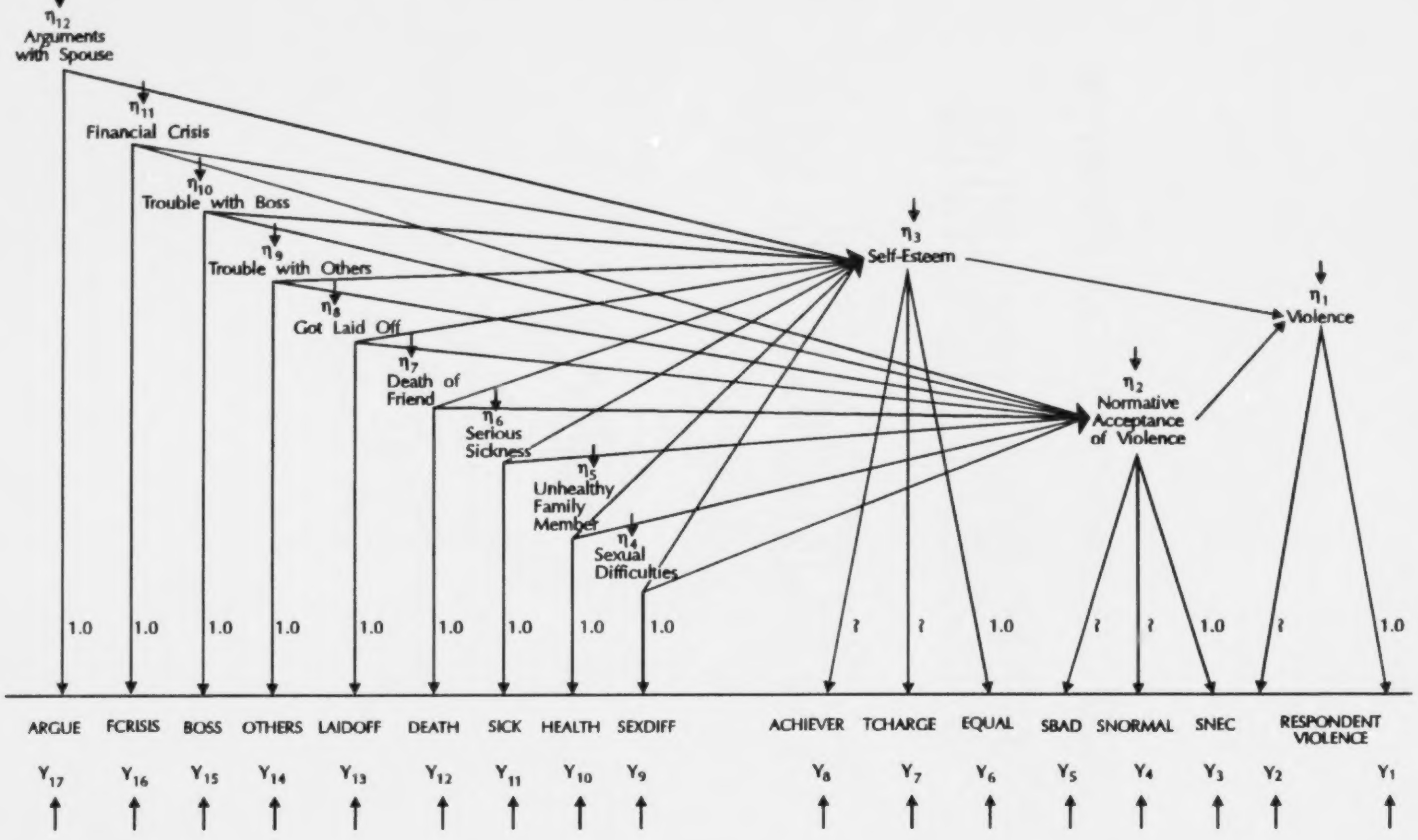
* To simplify this diagram, the covariances among the exogenous concepts (eta1 through eta4, and eta10 through eta14) have not been diagrammed even though these are part of the model.

Figure 5.1: Culture of Violence and Domestic Violence: An Empirical Model*


η_7 Vandalism
η_6 Wife Abuse
η_5 $1000 Theft
η_4 Drunk Driving Injury
η_3 Robbery
η_2 Child Abuse
η_1 Physical Violence
1.0
1.0
1.0
1.0
1.0
1.0
?
1.0
VANDALISM
WABUSE
THEFT
DDRIVE
ROBBERY
CABUSE
PUSH
THREW
Y_8
Y_7
Y_6
Y_5
Y_4
Y_3
Y_2
Y_1

* For dagrammatic clarity, covariances among the exogenous variables have been omitted even though they are part of the model.

Figure 5.2: Stress and Domestic Violence: An Empirical Model*


η_{12} Arguments with Spouse
η_{11} Financial Crisis
η_{10} Trouble with Boss
η_{9} Trouble with Others
η_{8} Got Laid Off
η_{7} Death of Friend
η_{6} Serious Sickness
η_{5} Unhealthy Family Member
η_{4} Sexual Difficulties
η_{3} Self-Esteem
η_{2} Normative Acceptance of Violence
η_{1} Violence
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
1.0
?
?
1.0
?
?
1.0
?
1.0
ARGUE
FCRISIS
BOSS
OTHERS
LAIDOFF
DEATH
SICK
HEALTH
SEXDIFF
ACHIEVER
TCHARGE
EQUAL
SBAD
SNORMAL
SNEC
RESPONDENT VIOLENCE
Y_{17}
Y_{16}
Y_{15}
Y_{14}
Y_{13}
Y_{12}
Y_{11}
Y_{10}
Y_{9}
Y_{8}
Y_{7}
Y_{6}
Y_{5}
Y_{4}
Y_{3}
Y_{2}
Y_{1}

* For diagrammatic clarity, exogenous variables' covariances have been omitted even though they are part of the model.

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APPENDIX 1.
COMPUTER OUTPUT: EXPLAINING PHYSICAL VIOLENCE (LISTWISE MATRIX)

```
21 Aug 93    SPSS-X RELEASE 3.0 FOR IBM MTS
09:26:00     University of Alberta

For                       University of Alberta             License Number 30
This software is functional through January 31, 1999.

Try the new SPSS-X Release 3.0 features:

* Interactive SPSS-X command execution         * Improvements in:
* Online Help                                  *   REPORT
* Nonlinear Regression                         *   TABLES
* Time Series and Forecasting (TRENDS)         *   Simplified Syntax
* Macro Facility                               *   Matrix I/O
                                                   .
See SPSS-X User's Guide, Third Edition for more information on these features.

     1  0  title 'EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)'
     2  0  file handle #8/name='THESIS.MALES'
     3  0  file handle #9/name='THESIS.FEMAL'
     4  0  INPUT PROGRAM
     5  0  NUMERIC A
     6  0  END FILE
     7  0  END INPUT PROGRAM
     8  0  USERPROC NAME=LISREL
     9  0  TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (F TO M VIOLENCE)
    10  0  DA NI=21 NO=332 MA=CM  NG=2
    11  0  CM UN=8 FU FO
    12  0  (21F10.5)
    13  0  LA
    14  0   'RSPANKS' 'RINCOME' 'SDISCUSS' 'SSPANKS' 'SSPITE'
    15  0   'SINSULT' 'SSLAP' 'SKICK' 'RSPITE' 'RINSULT'
    16  0   'RSLAP' 'RKICK' 'BABY' 'WORK' 'DRUNK' 'ACHIEVER'
    17  0   'MONEY' 'DADHIT' 'MOMHIT' 'MOMSPANK' 'DADSPANK'
    18  0  SE
    19  0   'SDISCUSS' 'SSPANKS' 'RINCOME' 'RSPANKS' 'SSLAP'
    20  0   'SKICK'                   'RSLAP' 'RKICK'
    21  0   'BABY' 'WORK' 'DRUNK' 'ACHIEVER' 'MONEY' 'DADHIT'
    22  0   'MOMHIT' 'DADSPANK' 'MOMSPANK'/
    23  0  MO NY=17 NE=14 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
    24  0  VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4)
    25  0  VA 1.0 LY(6,5)
    26  0  VA 1.0 LY(8,6)
    27  0  VA 1.0 LY(9,7)
    28  0  VA 1.0 LY(11,8) LY(12,9) LY(13,10) LY(14,11)
    29  0  VA 1.0 LY(15,12) LY(16,13) LY(17,14)
    30  0  FR LY(5,5)
    31  0  FR LY(7,6)
    32  0  FR LY(10,7)
    33  0  FR BE(5,1) BE(5,2)  BE(5,7)       BE(5,6)
    34  0  FR BE(6,3) BE(6,4) BE(6,5) BE(6,7) BE(6,8) BE(6,9)
    35  0  ST -0.012 BE(6,5)
    36  0  ST 0.897 BE(5,6)
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    41  0  FR PS(1,1) PS(2,1) PS(3,1) PS(4,1) PS(11,1) PS(12,1) PS(13,1)
    42  0  FR PS(14,1)
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED)
09:26:06    University of Alberta

  44  O  FR PS(3,3) PS(3,4) PS(3,11 PS(3,12) PS(3,13) PS(3,14)
  45  O  FR PS(4,4) PS(4,11) PS(4,12) PS(4,13) PS(4,14)
  46  O  FR PS(11,11) PS(11,12) PS(11,13) PS(11,14)
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  48  O  FR PS(13,13) PS(13,14)
  49  O  FR PS(14,14)
  50  O  VA  8.068 TE(1,1)
  51  O  VA  0.05805 TE(2,2)
  52  O  VA  0.362 TE(3,3)
  53  O  VA  2.946 TE(4,4)
  54  O  VA  0.258 TE(6,6)
  55  O  VA  0.021 TE(8,8)
  56  O  VA  0.031 TE(9,9)
  57  O  VA  0.071 TE(11,11)
  58  O  VA  0.118 TE(12,12)
  59  O  VA  0.811 TE(13,13)
  60  O  VA  0.366 TE(14,14)
  61  O  VA  0.355 TE(15,15)
  62  O  VA  2.396 TE(16,16)
  63  O  VA  4.920 TE(17,17)
  64  O  FR TE(5,5) TE(7,7) TE(10,10)
  65  O  FR BE(10,9) BE(10,8)
  66  O  FR BE(10,3)
  67  O  FR BE(5,8)
  68  O  FR PS(2,10)
  69  O  FR LY(6,6)
  70  O  FR BE(2,8)
  71  O  FR BE(6,11)
  72  O  FR LY(6,2)
  73  O  FR TE(14,6)
  74  O  FR LY(8,7)
  75  O  OU ML AL
  76  O  TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES)
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  78  O  CM UN=9 FU FO
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  81  O   'RSPANKS' 'RINCOME' 'SDISCUSS' 'SSPANKS' 'SSPITE'
  82  O   'SINSULT' 'SSLAP' 'SKICK' 'RSPITE' 'RINSULT'
  83  O   'RSLAP' 'RKICK' 'BABY' 'WORK' 'DRUNK' 'ACHIEVER'
  84  O   'MONEY' 'DADHIT' 'MOMHIT' 'MOMSPANK' 'DADSPANK'
  85  O  SE
  86  O   'SDISCUSS' 'SSPANKS' 'RINCOME' 'RSPANKS' 'SSLAP'
  87  O   'SKICK'                  'RSLAP' 'RKICK'
  88  O   'BABY' 'WORK' 'DRUNK' 'ACHIEVER' 'MONEY' 'DADHIT'
  89  O   'MOMHIT' 'DADSPANK' 'MOMSPANK'/
  90  O  MO NY=17 NE=14 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
  91  O  VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4)
  92  O  VA 1.0 LY(6,5)
  93  O  VA 1.0 LY(8,6)
  94  O  VA 1.0 LY(9,7)
  95  O  VA 1.0 LY(11,8) LY(12,9) LY(13,10) LY(14,11)
  96  O  VA 1.0 LY(15,12) LY(16,13) LY(17,14)
  97  O  FR LY(5,5)
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:26:06    University of Alberta

  98  O  FR LY(7,6)
  99  O  FR LY(10,7)
 100  O  ST 0.5 LY(5,5) LY(7,6) LY(10,7)
 101  O  FR BE(5,1) BE(5,2)  BE(5,7) BE(5,6)
 102  O  FR BE(6,3) BE(6,4)  BE(6,5) BE(6,7) BE(6,8) BE(6,9)
 103  O  FR BE(7,8) BE(7,9) BE(7,10)
 104  O  FR BE(8,9) BE(8,11) BE(8,12) BE(8,13) BE(8,14)
 105  O  FR BE(9,11) BE(9,12) BE(9,13) BE(9,14)
 106  O  FR PS(5,5) PS(6,6) PS(7,7) PS(8,8) PS(9,9) PS(10,10)
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 108  O  FR PS(14,1)
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 114  O  FR PS(13,13) PS(13,14)
 115  O  FR PS(14,14)
 116  O  VA 1.72014    TE(1,1)
 117  O  VA 1.29284    TE(2,2)
 118  O  VA 0.3292     TE(3,3)
 119  O  VA 0.3806     TE(4,4)
 120  O  VA 0.00135    TE(6,6)
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 125  O  VA 0.6334     TE(13,13)
 126  O  VA 0.81105    TE(14,14)
 127  O  VA 0.438      TE(15,15)
 128  O  VA 1.13435    TE(16,16)
 129  O  VA 1.84505    TE(17,17)
 130  O  FR TE(5,5) TE(7,7) TE(10,10)
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 132  O  FR BE(10,9)
 133  O  FR BE(10,8)
 134  O  FR BE(3,9)
 135  O  FR BE(6,11)
 136  O  FR BE(10,3)
 137  O  EQ BE(6,5) BE(1,5,6)
 138  O  EQ BE(5,6) BE(1,6,5)
 139  O  OU ML AL
 140  O  END USER

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The largest contiguous area has 5119448 bytes.
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED)
09:26:06     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (F TO M VIOLENCE)

          COVARIANCE MATRIX TO BE ANALYZED

             SDISCUSS  SSPANKS   RINCOME   RSPANKS   SSLAP     SKICK     RSLAP     RKICK     BABY      WORK
             --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
SDISCUSS       80.658
SSPANKS        12.314    58.074
RINCOME         2.760    -1.098     7.204
RSPANKS        12.979    43.499    -1.712    58.921
SSLAP           0.397     2.496    -0.506     1.905     2.580
SKICK          -0.567     1.666    -0.564     0.901     2.218     3.159
RSLAP          -0.300     0.282    -0.097     0.122     0.291     0.484     0.210
RKICK          -0.188     0.488    -0.134     0.192     0.396     0.798     0.214     0.412
BABY            0.154     0.059    -0.032    -0.320     0.036     0.159     0.039     0.044     0.313
WORK           -0.210     0.582    -0.016     0.316     0.038     0.146     0.021     0.029     0.028     0.660
DRUNK          -0.203     0.901    -0.060     0.745     0.394     0.273     0.039     0.005    -0.008     0.064
ACHIEVER        0.558     0.353     0.268     0.310    -0.042     0.002     0.003     0.011     0.048     0.053
MONEY           3.825     1.616     8.364    -1.709    -0.469    -0.479     0.002     0.009    -0.073     0.150
DADHIT         -0.966    -1.369    -0.632    -1.797     0.308     0.763     0.151     0.223     0.023     0.039
MOMHIT          1.028    -0.831    -0.098    -1.335     0.153     0.316     0.078     0.109     0.087     0.072
DADSPANK        3.959    -1.356    -2.163     1.176     0.020    -0.017     0.259     0.065    -0.081    -0.671
MOMSPANK       10.978     7.503    -1.087     5.666     0.333     0.217     0.180     0.007     0.294    -0.501

          COVARIANCE MATRIX TO BE ANALYZED

             DRUNK     ACHIEVER  MONEY     DADHIT    MOMHIT    DADSPANK  MOMSPANK
             --------  --------  --------  --------  --------  --------  --------
DRUNK           0.714
ACHIEVER       -0.059     1.182
MONEY          -0.338     0.341    16.228
DADHIT         -0.131     0.014    -0.585     7.337
MOMHIT         -0.094    -0.020    -0.297     5.800     7.109
DADSPANK       -0.562    -0.061    -2.347     4.297     3.126    47.934
MOMSPANK       -0.596    -0.027    -1.554     4.214     5.503    22.044    49.212

          DETERMINANT = 0.830526E+09
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:26:06     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES)

         COVARIANCE MATRIX TO BE ANALYZED

             SDISCUSS  SSPANKS   RINCOME   RSPANKS   SSLAP     SKICK     RSLAP     RKICK     BABY      WORK
             --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
 SDISCUSS      86.007
 SSPANKS        8.255    64.462
 RINCOME        3.769    -2.070     6.584
 RSPANKS       10.735    35.538    -1.590    38.060
 SSLAP         -0.046     0.101    -0.072     0.296     0.237
 SKICK          0.023     0.085    -0.012     0.083     0.012     0.027
 RSLAP         -0.719     0.090    -0.343     0.135     0.024     0.010     2.064
 RKICK         -0.135    -0.286    -0.149    -0.116     0.005     0.018     0.768     0.459
 BABY           0.349     0.108    -0.092    -0.352     0.008     0.001    -0.053    -0.023     0.443
 WORK          -0.328    -0.223     0.007    -0.256    -0.048     0.012     0.041     0.043     0.091     0.710
 DRUNK          0.079     0.219    -0.176     0.354     0.023     0.005     0.284     0.086    -0.098    -0.054
 ACHIEVER       0.975    -0.436     0.580    -0.056     0.006    -0.008    -0.112     0.003     0.060    -0.094
 MONEY          5.656    -0.073     6.873    -0.089    -0.113    -0.008    -0.143    -0.102    -0.045     0.040
 DADHIT        -0.934     0.389    -1.199    -0.931     0.046     0.028     1.162     0.502     0.039     0.040
 MOMHIT        -1.269    -0.752    -0.608    -1.626     0.012     0.012    -0.027    -0.028     0.057     0.022
 DADSPANK       3.122     3.775    -1.294     3.091     0.079     0.070    -0.015    -0.049     0.041     0.079
 MOMSPANK       6.886     3.638    -0.522     1.890    -0.024    -0.022    -0.175    -0.036     0.113     0.163

         COVARIANCE MATRIX TO BE ANALYZED

             DRUNK     ACHIEVER  MONEY     DADHIT    MOMHIT    DADSPANK  MOMSPANK
             --------  --------  --------  --------  --------  --------  --------
 DRUNK          0.954
 ACHIEVER      -0.067     0.876
 MONEY         -0.323     0.600    12.688
 DADHIT         0.061     0.001    -0.953    16.221
 MOMHIT         0.441     0.083    -0.693     3.458     8.760
 DADSPANK       0.046    -0.065    -1.136     5.342     0.301    22.687
 MOMSPANK       0.128     0.051    -0.529     2.519     4.221    10.083    36.901

         DETERMINANT = 0.885744E+08
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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:26:51     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (F TO M VIOLENCE)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

          LAMBDA Y

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS       1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS        0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME        0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000
SSLAP          0.000      0.000      0.000      0.000      1.131      0.000      0.000      0.000      0.000      0.000
SKICK          0.000     -0.019      0.000      0.000      1.000      1.149      0.000      0.000      0.000      0.000
RSLAP          0.000      0.000      0.000      0.000      0.000      0.536      0.000      0.000      0.000      0.000
RKICK          0.000      0.000      0.000      0.000      0.000      1.000     -0.154      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000      0.000      0.000      0.104      0.000      0.000      0.000
DRUNK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000
MONEY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000
DADHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          LAMBDA Y

              ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
SDISCUSS       0.000      0.000      0.000      0.000
SSPANKS        0.000      0.000      0.000      0.000
RINCOME        0.000      0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      0.000
SSLAP          0.000      0.000      0.000      0.000
SKICK          0.000      0.000      0.000      0.000
RSLAP          0.000      0.000      0.000      0.000
RKICK          0.000      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000
DRUNK          0.000      0.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000
MONEY          0.000      0.000      0.000      0.000
DADHIT         1.000      0.000      0.000      0.000
MOMHIT         0.000      1.000      0.000      0.000
DADSPANK       0.000      0.000      1.000      0.000
MOMSPANK       0.000      0.000      0.000      1.000
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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:26:51     University of Alberta

         BETA

               ETA 1       ETA 2       ETA 3       ETA 4       ETA 5       ETA 6       ETA 7       ETA 8       ETA 9       ETA 10
  ETA 1        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  ETA 2        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.613       0.000       0.000
  ETA 3        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  ETA 4        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  ETA 5        0.000       0.024       0.000       0.000       0.000       0.883      -0.084       0.435       0.000       0.000
  ETA 6        0.000       0.000      -0.015       0.005      -0.012       0.000       0.315       0.017       0.005       0.000
  ETA 7        0.000       0.000       0.000       0.000       0.000       0.000       0.000      -0.009       0.047      -0.005
  ETA 8        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000      -0.056       0.000
  ETA 9        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 10        0.000       0.000       1.218       0.000       0.000       0.000       0.000      -0.420      -0.010       0.000
 ETA 11        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 12        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 13        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 14        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000

         BETA

               ETA 11      ETA 12      ETA 13      ETA 14
  ETA 1        0.000       0.000       0.000       0.000
  ETA 2        0.000       0.000       0.000       0.000
  ETA 3        0.000       0.000       0.000       0.000
  ETA 4        0.000       0.000       0.000       0.000
  ETA 5        0.000       0.000       0.000       0.000
  ETA 6        0.032       0.000       0.000       0.000
  ETA 7        0.000       0.000       0.000       0.000
  ETA 8       -0.011       0.006      -0.007      -0.009
  ETA 9        0.011      -0.012      -0.002       0.001
 ETA 10        0.000       0.000       0.000       0.000
 ETA 11        0.000       0.000       0.000       0.000
 ETA 12        0.000       0.000       0.000       0.000
 ETA 13        0.000       0.000       0.000       0.000
 ETA 14        0.000       0.000       0.000       0.000

         PSI

               ETA 1       ETA 2       ETA 3       ETA 4       ETA 5       ETA 6       ETA 7       ETA 8       ETA 9       ETA 10
  ETA 1       72.590
  ETA 2       12.267      56.855
  ETA 3        2.789      -1.040       6.843
  ETA 4       12.969      42.803      -1.666      55.973
  ETA 5        0.000       0.000       0.000       0.000       1.089
  ETA 6        0.000       0.000       0.000       0.000       0.000       0.382
  ETA 7        0.000       0.000       0.000       0.000       0.000       0.000       0.280
  ETA 8        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.630
  ETA 9        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       1.064
 ETA 10        0.000       2.899       0.000       0.000       0.000       0.000       0.000       0.000       0.000       5.097
 ETA 11       -0.840      -1.370      -0.604      -1.772       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 12        1.026      -0.676      -0.113      -1.337       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 13        3.958      -1.053      -2.158       1.152       0.000       0.000       0.000       0.000       0.000       0.000
 ETA 14       10.986       8.045      -1.111       5.608       0.000       0.000       0.000       0.000       0.000       0.000
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED)
09:26:51    University of Alberta

         PSI

                 ETA 11     ETA 12     ETA 13     ETA 14
                --------   --------   --------   --------
 ETA 11            6.944
 ETA 12            5.784      6.754
 ETA 13            4.327      3.126     45.538
 ETA 14            4.189      5.503     22.044     44.293

         THETA EPS

               SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
               --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
 SDISCUSS         8.068
 SSPANKS          0.000      0.058
 RINCOME          0.000      0.000      0.362
 RSPANKS          0.000      0.000      0.000      2.946
 SSLAP            0.000      0.000      0.000      0.000      0.559
 SKICK            0.000      0.000      0.000      0.000      0.000      0.258
 RSLAP            0.000      0.000      0.000      0.000      0.000      0.000      0.092
 RKICK            0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.021
 BABY             0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.031
 WORK             0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.657
 DRUNK            0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ACHIEVER         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MONEY            0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADHIT           0.000      0.000      0.000      0.000      0.000      0.197      0.000      0.000      0.000      0.000
 MOMHIT           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADSPANK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMSPANK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         THETA EPS

               DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
               --------   --------   --------   --------   --------   --------   --------
 DRUNK            0.071
 ACHIEVER         0.000      0.118
 MONEY            0.000      0.000      0.811
 DADHIT           0.000      0.000      0.000      0.366
 MOMHIT           0.000      0.000      0.000      0.000      0.355
 DADSPANK         0.000      0.000      0.000      0.000      0.000      2.396
 MOMSPANK         0.000      0.000      0.000      0.000      0.000      0.000      4.920

         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

               SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
               --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
                  0.900      0.999      0.950      0.950      0.783      0.918      0.562      0.949      0.901      0.005

         SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

               DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
               --------   --------   --------   --------   --------   --------   --------
                  0.901      0.900      0.950      0.950      0.950      0.950      0.900

         TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:26:51    University of Alberta

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

           ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7     ETA 8     ETA 9    ETA 10
         --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
           0.000     0.003     0.000     0.000     0.296     0.074     0.010     0.021     0.000     0.668

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

          ETA 11    ETA 12    ETA 13    ETA 14
         --------  --------  --------  --------
           0.000     0.000     0.000     0.000

        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS -0.022


               MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

                       GOODNESS OF FIT INDEX IS 0.969

                   ROOT MEAN SQUARE RESIDUAL IS     0.226
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:28:00     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (F TO M VIOLENCE)

STANDARD ERRORS

         LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
 SDISCUSS     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 SSPANKS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RINCOME      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RSPANKS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 SSLAP        0.000      0.000      0.000      0.000      0.056      0.000      0.000      0.000      0.000      0.000
 SKICK        0.000      0.006      0.000      0.000      0.000      0.088      0.000      0.000      0.000      0.000
 RSLAP        0.000      0.000      0.000      0.000      0.000      0.028      0.000      0.000      0.000      0.000
 RKICK        0.000      0.000      0.000      0.000      0.000      0.000      0.053      0.000      0.000      0.000
 BABY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 WORK         0.000      0.000      0.000      0.000      0.000      0.000      0.088      0.000      0.000      0.000
 DRUNK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ACHIEVER     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MONEY        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         LAMBDA Y

             ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
 SDISCUSS     0.000      0.000      0.000      0.000
 SSPANKS      0.000      0.000      0.000      0.000
 RINCOME      0.000      0.000      0.000      0.000
 RSPANKS      0.000      0.000      0.000      0.000
 SSLAP        0.000      0.000      0.000      0.000
 SKICK        0.000      0.000      0.000      0.000
 RSLAP        0.000      0.000      0.000      0.000
 RKICK        0.000      0.000      0.000      0.000
 BABY         0.000      0.000      0.000      0.000
 WORK         0.000      0.000      0.000      0.000
 DRUNK        0.000      0.000      0.000      0.000
 ACHIEVER     0.000      0.000      0.000      0.000
 MONEY        0.000      0.000      0.000      0.000
 DADHIT       0.000      0.000      0.000      0.000
 MOMHIT       0.000      0.000      0.000      0.000
 DADSPANK     0.000      0.000      0.000      0.000
 MOMSPANK     0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:28:01    University of Alberta


        BETA

            ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
          --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
  ETA 1     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 2     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.365      0.000      0.000
  ETA 3     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 4     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 5     0.008      0.009      0.000      0.000      0.000      0.152      0.154      0.083      0.000      0.000
  ETA 6     0.000      0.000      0.014      0.005      0.020      0.000      0.085      0.047      0.036      0.000
  ETA 7     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.040      0.031      0.008
  ETA 8     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.047      0.000
  ETA 9     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 10     0.000      0.000      0.055      0.000      0.000      0.000      0.000      0.184      0.139      0.000
 ETA 11     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 12     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 13     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 14     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        BETA

           ETA 11     ETA 12     ETA 13     ETA 14
          --------   --------   --------   --------
  ETA 1     0.000      0.000      0.000      0.000
  ETA 2     0.000      0.000      0.000      0.000
  ETA 3     0.000      0.000      0.000      0.000
  ETA 4     0.000      0.000      0.000      0.000
  ETA 5     0.000      0.000      0.000      0.000
  ETA 6     0.014      0.000      0.000      0.000
  ETA 7     0.000      0.000      0.000      0.000
  ETA 8     0.039      0.040      0.009      0.009
  ETA 9     0.050      0.052      0.011      0.012
 ETA 10     0.000      0.000      0.000      0.000
 ETA 11     0.000      0.000      0.000      0.000
 ETA 12     0.000      0.000      0.000      0.000
 ETA 13     0.000      0.000      0.000      0.000
 ETA 14     0.000      0.000      0.000      0.000

        PSI

            ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
          --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
  ETA 1     6.270
  ETA 2     3.745      4.370
  ETA 3     1.331      1.114      0.560
  ETA 4     3.856      3.930      1.134      4.580
  ETA 5     0.000      0.000      0.000      0.000      0.110
  ETA 6     0.000      0.000      0.000      0.000      0.000      0.034
  ETA 7     0.000      0.000      0.000      0.000      0.000      0.000      0.024
  ETA 8     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.055
  ETA 9     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.092
 ETA 10     0.000      0.718      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.502
 ETA 11     1.331      1.112      0.398      1.143      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 12     1.317      1.094      0.393      1.127      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 13     3.425      2.847      1.026      2.922      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 14     3.515      2.919      1.035      2.976      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED)
09:28:01    University of Alberta

        PSI

              ETA 11     ETA 12     ETA 13     ETA 14
  ETA 11       0.565
  ETA 12       0.507      0.553
  ETA 13       1.052      1.029      3.726
  ETA 14       1.063      1.072      2.932      3.825

        THETA EPS

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
SDISCUSS       0.000
SSPANKS        0.000      0.000
RINCOME        0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      0.000
SSLAP          0.000      0.000      0.000      0.000      0.071
SKICK          0.000      0.000      0.000      0.000      0.000      0.000
RSLAP          0.000      0.000      0.000      0.000      0.000      0.000      0.008
RKICK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.051
DRUNK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MONEY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADHIT         0.000      0.000      0.000      0.000      0.000      0.068      0.000      0.000      0.000      0.000
MOMHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        THETA EPS

             DRUNK     ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
DRUNK          0.000
ACHIEVER       0.000      0.000
MONEY          0.000      0.000      0.000
DADHIT         0.000      0.000      0.000      0.000
MOMHIT         0.000      0.000      0.000      0.000      0.000
DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:28:04     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

         LAMBDA Y

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS       1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS        0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME        0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000
SSLAP          0.000      0.000      0.000      0.000      0.488      0.000      0.000      0.000      0.000      0.000
SKICK          0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000
RSLAP          0.000      0.000      0.000      0.000      0.000      1.762      0.000      0.000      0.000      0.000
RKICK          0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000      0.000      0.000      0.227      0.000      0.000      0.000
DRUNK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000
MONEY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000
DADHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         LAMBDA Y

              ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
SDISCUSS       0.000      0.000      0.000      0.000
SSPANKS        0.000      0.000      0.000      0.000
RINCOME        0.000      0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      0.000
SSLAP          0.000      0.000      0.000      0.000
SKICK          0.000      0.000      0.000      0.000
RSLAP          0.000      0.000      0.000      0.000
RKICK          0.000      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000
DRUNK          0.000      0.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000
MONEY          0.000      0.000      0.000      0.000
DADHIT         1.000      0.000      0.000      0.000
MOMHIT         0.000      1.000      0.000      0.000
DADSPANK       0.000      0.000      1.000      0.000
MOMSPANK       0.000      0.000      0.000      1.000
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:28:04    University of Alberta

         BETA

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
             --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 2       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 3       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.677      0.000
   ETA 4       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 5       0.000      0.001      0.000      0.000      0.000     -0.012      0.001      0.000      0.000      0.000
   ETA 6       0.000      0.000     -0.019     -0.006      0.883      0.000     -0.054      0.093      0.029      0.000
   ETA 7       0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.113      0.071     -0.011
   ETA 8       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.092      0.000
   ETA 9       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 10       0.000      0.000      1.099      0.000      0.000      0.000      0.000     -0.163     -0.058      0.000
  ETA 11       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         BETA

              ETA 11     ETA 12     ETA 13     ETA 14
             --------   --------   --------   --------
   ETA 1       0.000      0.000      0.000      0.000
   ETA 2       0.000      0.000      0.000      0.000
   ETA 3       0.000      0.000      0.000      0.000
   ETA 4       0.000      0.000      0.000      0.000
   ETA 5       0.000      0.000      0.000      0.000
   ETA 6       0.029      0.000      0.000      0.000
   ETA 7       0.000      0.000      0.000      0.000
   ETA 8      -0.011      0.059      0.005     -0.004
   ETA 9      -0.001      0.010     -0.004      0.002
  ETA 10       0.000      0.000      0.000      0.000
  ETA 11       0.000      0.000      0.000      0.000
  ETA 12       0.000      0.000      0.000      0.000
  ETA 13       0.000      0.000      0.000      0.000
  ETA 14       0.000      0.000      0.000      0.000

         PSI

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
             --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1      84.287
   ETA 2       8.255     63.169
   ETA 3       3.278     -1.655      5.839
   ETA 4      10.735     35.541     -1.436     37.679
   ETA 5       0.000      0.000      0.000      0.000      0.026
   ETA 6       0.000      0.000      0.000      0.000      0.000      0.399
   ETA 7       0.000      0.000      0.000      0.000      0.000      0.000      0.382
   ETA 8       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.828
   ETA 9       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.787
  ETA 10       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      4.487
  ETA 11      -0.938      0.380     -1.175     -0.935      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12      -1.258     -0.748     -0.661     -1.613      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13       3.119      3.782     -1.227      3.095      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14       6.887      3.633     -0.551      1.886      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:28:04    University of Alberta


        PSI

               ETA 11     ETA 12     ETA 13     ETA 14
             --------   --------   --------   --------
  ETA 11       15.411
  ETA 12        3.447      8.322
  ETA 13        5.327      0.300     21.553
  ETA 14        2.513      4.221     10.083     35.056

        THETA EPS

             SDISCUSS    SSPANKS    RINCOME    RSPANKS      SSLAP      SKICK      RSLAP      RKICK       BABY       WORK
             --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
 SDISCUSS       1.720
 SSPANKS        0.000      1.293
 RINCOME        0.000      0.000      0.329
 RSPANKS        0.000      0.000      0.000      0.381
 SSLAP          0.000      0.000      0.000      0.000      0.231
 SKICK          0.000      0.000      0.000      0.000      0.000      0.001
 RSLAP          0.000      0.000      0.000      0.000      0.000      0.000      0.711
 RKICK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.023
 BABY           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.044
 WORK           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.690
 DRUNK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ACHIEVER       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MONEY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        THETA EPS

                DRUNK   ACHIEVER      MONEY     DADHIT     MOMHIT   DADSPANK   MOMSPANK
             --------   --------   --------   --------   --------   --------   --------
 DRUNK          0.095
 ACHIEVER       0.000      0.088
 MONEY          0.000      0.000      0.633
 DADHIT         0.000      0.000      0.000      0.811
 MOMHIT         0.000      0.000      0.000      0.000      0.438
 DADSPANK       0.000      0.000      0.000      0.000      0.000      1.134
 MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      1.845

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

             SDISCUSS    SSPANKS    RINCOME    RSPANKS      SSLAP      SKICK      RSLAP      RKICK       BABY       WORK
             --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
                0.980      0.980      0.950      0.990      0.026      0.950      0.656      0.950      0.900      0.029

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

                DRUNK   ACHIEVER      MONEY     DADHIT     MOMHIT   DADSPANK   MOMSPANK
             --------   --------   --------   --------   --------   --------   --------
                0.900      0.900      0.950      0.950      0.950      0.950      0.950

        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
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        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

            ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
         --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
            0.000      0.000      0.058      0.000     -0.015      0.087      0.041      0.036      0.001      0.625

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

           ETA 11     ETA 12     ETA 13     ETA 14
         --------   --------   --------   --------
            0.000      0.000      0.000      0.000

        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS -0.022


                 MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

    CHI-SQUARE WITH 152 DEGREES OF FREEDOM IS    181.86 (PROB. LEVEL = 0.050)

                       GOODNESS OF FIT INDEX IS 0.965

                    ROOT MEAN SQUARE RESIDUAL IS     0.296
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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:29:15     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES)

STANDARD ERRORS

         LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
 SDISCUSS     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 SSPANKS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RINCOME      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RSPANKS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 SSLAP        0.000      0.000      0.000      0.000      0.179      0.000      0.000      0.000      0.000      0.000
 SKICK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RSLAP        0.000      0.000      0.000      0.000      0.000      0.080      0.000      0.000      0.000      0.000
 RKICK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 BABY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 WORK         0.000      0.000      0.000      0.000      0.000      0.000      0.080      0.000      0.000      0.000
 DRUNK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ACHIEVER     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MONEY        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         LAMBDA Y

             ETA 11     ETA 12     ETA 13     ETA 14
 SDISCUSS     0.000      0.000      0.000      0.000
 SSPANKS      0.000      0.000      0.000      0.000
 RINCOME      0.000      0.000      0.000      0.000
 RSPANKS      0.000      0.000      0.000      0.000
 SSLAP        0.000      0.000      0.000      0.000
 SKICK        0.000      0.000      0.000      0.000
 RSLAP        0.000      0.000      0.000      0.000
 RKICK        0.000      0.000      0.000      0.000
 BABY         0.000      0.000      0.000      0.000
 WORK         0.000      0.000      0.000      0.000
 DRUNK        0.000      0.000      0.000      0.000
 ACHIEVER     0.000      0.000      0.000      0.000
 MONEY        0.000      0.000      0.000      0.000
 DADHIT       0.000      0.000      0.000      0.000
 MOMHIT       0.000      0.000      0.000      0.000
 DADSPANK     0.000      0.000      0.000      0.000
 MOMSPANK     0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:29:16    University of Alberta

        BETA

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
     ETA 1     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
     ETA 2     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
     ETA 3     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.166      0.000
     ETA 4     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
     ETA 5     0.001      0.001      0.000      0.000      0.000      0.020      0.016      0.000      0.000      0.000
     ETA 6     0.000      0.000      0.016      0.006      0.152      0.000      0.064      0.044      0.047      0.000
     ETA 7     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.043      0.046      0.011
     ETA 8     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.066      0.000
     ETA 9     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 10     0.000      0.000      0.058      0.000      0.000      0.000      0.000      0.155      0.168      0.000
    ETA 11     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 12     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 13     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 14     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        BETA

              ETA 11     ETA 12     ETA 13     ETA 14
     ETA 1     0.000      0.000      0.000      0.000
     ETA 2     0.000      0.000      0.000      0.000
     ETA 3     0.000      0.000      0.000      0.000
     ETA 4     0.000      0.000      0.000      0.000
     ETA 5     0.000      0.000      0.000      0.000
     ETA 6     0.010      0.000      0.000      0.000
     ETA 7     0.000      0.000      0.000      0.000
     ETA 8     0.016      0.022      0.014      0.011
     ETA 9     0.016      0.021      0.014      0.011
    ETA 10     0.000      0.000      0.000      0.000
    ETA 11     0.000      0.000      0.000      0.000
    ETA 12     0.000      0.000      0.000      0.000
    ETA 13     0.000      0.000      0.000      0.000
    ETA 14     0.000      0.000      0.000      0.000

        PSI

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
     ETA 1     7.034
     ETA 2     4.332      5.272
     ETA 3     1.347      1.158      0.508
     ETA 4     3.367      3.526      0.891      3.113
     ETA 5     0.000      0.000      0.000      0.000      0.002
     ETA 6     0.000      0.000      0.000      0.000      0.000      0.035
     ETA 7     0.000      0.000      0.000      0.000      0.000      0.000      0.035
     ETA 8     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.076
     ETA 9     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.072
    ETA 10     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.451
    ETA 11     2.161      1.870      0.583      1.438      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 12     1.589      1.375      0.428      1.060      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 13     2.561      2.222      0.689      1.709      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 14     3.282      2.828      0.874      2.170      0.000      0.000      0.000      0.000      0.000      0.000
```

University of Alberta

```
21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED)
09:29:16    University of Alberta


        PSI

                 ETA 11      ETA 12      ETA 13      ETA 14
    ETA 11        1.327
    ETA 12        0.718       0.716
    ETA 13        1.151       0.815       1.855
    ETA 14        1.422       1.068       1.772       3.018

        THETA EPS

               SDISCUSS    SSPANKS     RINCOME     RSPANKS     SSLAP       SKICK       RSLAP       RKICK       BABY        WORK
  SDISCUSS        0.000
  SSPANKS         0.000       0.000
  RINCOME         0.000       0.000       0.000
  RSPANKS         0.000       0.000       0.000       0.000
  SSLAP           0.000       0.000       0.000       0.000       0.019
  SKICK           0.000       0.000       0.000       0.000       0.000       0.000
  RSLAP           0.000       0.000       0.000       0.000       0.000       0.000       0.064
  RKICK           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  BABY            0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  WORK            0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.057
  DRUNK           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  ACHIEVER        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  MONEY           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  DADHIT          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  MOMHIT          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  DADSPANK        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
  MOMSPANK        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000

        THETA EPS

               DRUNK       ACHIEVER    MONEY       DADHIT      MOMHIT      DADSPANK    MOMSPANK
  DRUNK           0.000
  ACHIEVER        0.000       0.000
  MONEY           0.000       0.000       0.000
  DADHIT          0.000       0.000       0.000       0.000
  MOMHIT          0.000       0.000       0.000       0.000       0.000
  DADSPANK        0.000       0.000       0.000       0.000       0.000       0.000
  MOMSPANK        0.000       0.000       0.000       0.000       0.000       0.000       0.000
```

APPENDIX 2.
COMPUTER OUTPUT: EXPLAINING PHYSICAL VIOLENCE (PAIRWISE MATRIX)

```
21 Aug 93   SPSS-X RELEASE 3.0 FOR IBM MTS
09:37:19    University of Alberta

For
                        University of Alberta
This software is functional through January 31, 1999.          License Number 30

Try the new SPSS-X Release 3.0 features:

* Interactive SPSS-X command execution
* Online Help                                       * Improvements in:
* Nonlinear Regression                              *   REPORT
* Time Series and Forecasting (TRENDS)              *   TABLES
* Macro Facility                                    *   Simplified Syntax
                                                    *   Matrix I/O

See SPSS-X User's Guide, Third Edition for more information on these features.

  1  0  title 'EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)'
  2  0  file handle #8/name='PAIR.MALES'
  3  0  file handle #9/name='PAIR.FEMALES'
  4  0  INPUT PROGRAM
  5  0  NUMERIC A
  6  0  END FILE
  7  0  END INPUT PROGRAM
  8  0  USERPROC NAME=LISREL
  9  0  TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (PAIRWISE MATRIX)
 10  0  DA NI=21 NO=426 MA=CM  NG=2
 11  0  CM UN=8 FU FO
 12  0  (21F10.5)
 13  0  LA
 14  0   'RSPANKS' 'RINCOME' 'SDISCUSS' 'SSPANKS' 'SSPITE'
 15  0   'SINSULT' 'SSLAP' 'SKICK' 'RSPITE' 'RINSULT'
 16  0   'RSLAP' 'RKICK' 'BABY' 'WORK' 'DRUNK' 'ACHIEVER'
 17  0   'MONEY' 'DADHIT' 'MOMHIT' 'MOMSPANK' 'DADSPANK'
 18  0  SE
 19  0   'SDISCUSS' 'SSPANKS' 'RINCOME' 'RSPANKS' 'SSLAP'
 20  0   'SKICK'                  'RSLAP' 'RKICK'
 21  0   'BABY' 'WORK' 'DRUNK' 'ACHIEVER' 'MONEY' 'DADHIT'
 22  0   'MOMHIT' 'DADSPANK' 'MOMSPANK'/
 23  0  MO NY=17 NE=14 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
 24  0  VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4)
 25  0  VA 1.0 LY(6,5)
 26  0  VA 1.0 LY(8,6)
 27  0  VA 1.0 LY(9,7)
 28  0  VA 1.0 LY(11,8) LY(12,9) LY(13,10) LY(14,11)
 29  0  VA 1.0 LY(15,12) LY(16,13) LY(17,14)
 30  0  FR LY(5,5)
 31  0  FR LY(7,6)
 32  0  FR LY(10,7)
 33  0  FR BE(5,1) BE(5,2)  BE(5,7)       BE(5,6)
 34  0  FR BE(6,3) BE(6,4) BE(6,5) BE(6,7) BE(6,8) BE(6,9)
 35  0  ST -0.012 BE(6,5)
 36  0  ST 0.897 BE(5,6)
 37  0  FR BE(7,8) BE(7,9) BE(7,10)
 38  0  FR BE(8,9) BE(8,11) BE(8,12) BE(8,13) BE(8,14)
 39  0  FR BE(9,11) BE(9,12) BE(9,13) BE(9,14)
 40  0  FR PS(5,5) PS(6,6) PS(7,7) PS(8,8) PS(9,9) PS(10,10)
 41  0  FR PS(1,1) PS(2,1) PS(3,1) PS(4,1) PS(11,1) PS(12,1) PS(13,1)
 42  0  FR PS(14,1)
 43  0  FR PS(2,2) PS(2,3) PS(2,4) PS(2,11) PS(2,12) PS(2,13) PS(2,14)
 44   0  FR PS(3,3) PS(3,4) PS(3,11 PS(3,12) PS(3,13) PS(3,14)
 45   0  FR PS(4,4) PS(4,11) PS(4,12) PS(4,13) PS(4,14)
 46   0  FR PS(11,11) PS(11,12) PS(11,13) PS(11,14)
 47   0  FR PS(12,12) PS(12,13) PS(12,14)
 48   0  FR PS(13,13) PS(13,14)
 49   0  FR PS(14,14)
 50   0  VA 8.5947 TE(1,1)
 51   0  VA 0.051147 TE(2,2)
 52   0  VA 0.41088 TE(3,3)
 53   0  VA 2.6943 TE(4,4)
 54   0  VA 0.2392 TE(6,6)
 55   0  VA 0.4454 TE(8,8)
 56   0  VA 0.029   TE(9,9)
 57   0  VA 0.0723 TE(11,11)
 58   0  VA 0.1257 TE(12,12)
 59   0  VA 0.842  TE(13,13)
 60   0  VA 0.5865 TE(14,14)
 61   0  VA 0.3221 TE(15,15)
 62   0  VA 2.0095 TE(16,16)
 63   0  VA 2.5798 TE(17,17)
 64   0  FR TE(5,5) TE(7,7) TE(10,10)
 65   0  FR BE(10,9) BE(10,8)
 66   0  FR BE(10,3)
 67   0  FR BE(5,8)
 68   0  FR PS(2,10)
 69   0  FR LY(6,6)
 70   0  FR BE(2,8)
 71   0  FR BE(6,11)
 72   0  FR LY(6,2)
 73   0  FR TE(14,6)
 74   0  FR LY(8,7)
 75   0  OU ML AL
 76   0  TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES;PAIRWISE MATRIX)
 77   0  DA NI=21 NO=503 MA=CM
 78   0  CM UN=9 FU FO
 79   0  (21F10.5)
 80   0  LA
 81   0   'RSPANKS' 'RINCOME' 'SDISCUSS' 'SSPANKS' 'SSPITE'
 82   0   'SINSULT' 'SSLAP' 'SKICK' 'RSPITE' 'RINSULT'
 83   0   'RSLAP' 'RKICK' 'BABY' 'WORK' 'DRUNK' 'ACHIEVER'
 84   0   'MONEY' 'DADHIT' 'MOMHIT' 'MOMSPANK' 'DADSPANK'
 85   0  SE
 86   0   'SDISCUSS' 'SSPANKS' 'RINCOME' 'RSPANKS' 'SSLAP'
 87   0   'SKICK'                   'RSLAP' 'RKICK'
 88   0   'BABY' 'WORK' 'DRUNK' 'ACHIEVER' 'MONEY' 'DADHIT'
 89   0   'MOMHIT' 'DADSPANK' 'MOMSPANK'/
 90   0  MO NY=17 NE=14 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
 91   0  VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4)
 92   0  VA 1.0 LY(6,5)
 93   0  VA 1.0 LY(8,6)
 94   0  VA 1.0 LY(9,7)
 95   0  VA 1.0 LY(11,8) LY(12,9) LY(13,10) LY(14,11)
 96   0  VA 1.0 LY(15,12) LY(16,13) LY(17,14)
 97   0  FR LY(5,5)
```

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:37:25    University of Alberta

  98  O  FR LY(7,6)
  99  O  FR LY(10,7)
 100  O  ST 0.5 LY(5,5) LY(7,6) LY(10,7)
 101  O  FR BE(5,1) BE(5,2)  BE(5,7) BE(5,6)
 102  O  FR BE(6,3) BE(6,4)  BE(6,5) BE(6,7) BE(6,8) BE(6,9)
 103  O  FR BE(7,8) BE(7,9) BE(7,10)
 104  O  FR BE(8,9) BE(8,11) BE(8,12) BE(8,13) BE(8,14)
 105  O  FR BE(9,11) BE(9,12) BE(9,13) BE(9,14)
 106  O  FR PS(5,5) PS(6,6) PS(7,7) PS(8,8) PS(9,9) PS(10,10)
 107  O  FR PS(1,1) PS(2,1) PS(3,1) PS(4,1) PS(11,1) PS(12,1) PS(13,1)
 108  O  FR PS(14,1)
 109  O  FR PS(2,2) PS(2,3) PS(2,4) PS(2,11) PS(2,12) PS(2,13) PS(2,14)
 110  O  FR PS(3,3) PS(3,4) PS(3,11 PS(3,12) PS(3,13) PS(3,14)
 111  O  FR PS(4,4) PS(4,11) PS(4,12) PS(4,13) PS(4,14)
 112  O  FR PS(11,11) PS(11,12) PS(11,13) PS(11,14)
 113  O  FR PS(12,12) PS(12,13) PS(12,14)
 114  O  FR PS(13,13) PS(13,14)
 115  O  FR PS(14,14)
 116  O  VA  1.80706  TE(1,1)
 117  O  VA  1.26644   TE(2,2)
 118  O  VA  0.40585  TE(3,3)
 119  O  VA  0.35333   TE(4,4)
 120  O  VA  0.02999   TE(6,6)
 121  O  VA  0.0639   TE(8,8)
 122  O  VA  0.0381   TE(9,9)
 123  O  VA  0.0941    TE(11,11)
 124  O  VA  0.1217    TE(12,12)
 125  O  VA  0.7592    TE(13,13)
 126  O  VA  0.72235   TE(14,14)
 127  O  VA  0.43255   TE(15,15)
 128  O  VA  1.19525   TE(16,16)
 129  O  VA  2.04835   TE(17,17)
 130  O  FR TE(5,5) TE(7,7) TE(10,10)
 131  O  ST 0.5 LY(5,5) LY(7,6)
 132  O  FR BE(10,9)
 133  O  FR BE(10,8)
 134  O  FR BE(3,9)
 135  O  FR BE(6,11)
 136  O  FR BE(10,3)
 137  O  EQ BE(6,5) BE(1,5,6)
 138  O  EQ BE(5,6) BE(1,6,5)
 139  O  OU ML AL
 140  O  END USER

 There are 5119448 bytes of memory available.
 The largest contiguous area has 5119448 bytes.
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:37:25    University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (PAIRWISE MATRIX)

        COVARIANCE MATRIX TO BE ANALYZED

           SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
           --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS     85.947
SSPANKS       9.348     51.514
RINCOME       2.645     -1.417      8.216
RSPANKS      11.682     38.192     -1.932     53.877
SSLAP         0.151      1.776     -0.312      1.108      1.660
SKICK        -0.040      1.182     -0.307      0.385      1.205      2.918
RSLAP        -0.400      0.461     -0.359      0.089      0.290      0.326      1.258
RKICK        -0.439      0.628     -0.298      0.235      0.206      0.428      0.816      0.992
BABY         -0.002     -0.028     -0.027     -0.377      0.021      0.074     -0.050     -0.027      0.301
WORK         -0.023      0.376     -0.092      0.344     -0.029      0.051     -0.015      0.017      0.017      0.562
DRUNK        -0.126      0.617      0.021      0.601      0.198      0.110      0.053      0.020      0.007      0.007
ACHIEVER      0.785      0.040      0.524      0.296     -0.069      0.008      0.029      0.014      0.014     -0.007
MONEY         3.125      1.500      8.845     -0.989     -0.254     -0.207     -0.176     -0.183     -0.071     -0.097
DADHIT       -0.327     -1.423     -0.278     -1.907      0.238      0.738      0.343      0.151      0.057     -0.094
MOMHIT        0.288     -0.607     -0.177     -1.054      0.140      0.187      0.242      0.319      0.092      0.017
DADSPANK      4.226      0.516     -1.923      2.575      0.569      1.108      0.344      0.019      0.068     -0.279
MOMSPANK      4.881      6.351     -1.371      5.312      0.498      0.940      0.089     -0.044      0.188     -0.398

        COVARIANCE MATRIX TO BE ANALYZED

           DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
           --------   --------   --------   --------   --------   --------   --------
DRUNK         0.713
ACHIEVER     -0.045      1.257
MONEY        -0.160      0.508     16.840
DADHIT        0.088     -0.080     -0.084     11.731
MOMHIT        0.108     -0.175     -0.210      5.271      6.443
DADSPANK      0.171     -0.305     -1.617      5.500      2.936     40.913
MOMSPANK     -0.151     -0.298     -1.177      4.510      3.928     24.015     51.597

        DETERMINANT = 0.790577E+11
```

University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:37:25    University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES;PAIRWISE MATRIX)

         COVARIANCE MATRIX TO BE ANALYZED

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS      90.353
SSPANKS        7.930     63.322
RINCOME        3.224     -2.421      8.117
RSPANKS       10.345     33.552     -1.158     35.333
SSLAP          0.005      0.389     -0.234      0.470      0.673
SKICK          0.057      0.402     -0.224      0.448      0.423      0.559
RSLAP         -0.702      0.792     -0.404      0.687      0.598      0.556      3.222
RKICK         -0.038      0.283     -0.280      0.254      0.506      0.605      1.288      1.278
BABY           0.080     -0.058      0.032     -0.229     -0.027     -0.067     -0.014     -0.052      0.381
WORK           0.026     -0.199      0.081     -0.228     -0.010      0.011      0.046      0.035      0.069      0.765
DRUNK          0.151      0.603     -0.132      0.386      0.129      0.104      0.278      0.128     -0.054     -0.037
ACHIEVER       1.458     -0.422      0.869      0.076     -0.018     -0.075     -0.109     -0.052      0.042     -0.034
MONEY          4.045     -0.212      8.356      0.362     -0.138     -0.154     -0.085     -0.138      0.011      0.177
DADHIT         0.014      1.291     -0.558     -0.502      0.209      0.008      0.491      0.232      0.014      0.043
MOMHIT         0.314      0.021     -0.129     -0.703      0.064      0.001     -0.049     -0.046      0.024     -0.000
DADSPANK       1.465      4.938     -0.557      2.926      0.435      0.078      0.399     -0.028     -0.071     -0.053
MOMSPANK       2.990      6.456     -0.628      3.490      0.228      0.013      0.248     -0.096     -0.012      0.273

         COVARIANCE MATRIX TO BE ANALYZED

            DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
            --------   --------   --------   --------   --------   --------   --------
DRUNK          0.941
ACHIEVER      -0.122      1.217
MONEY         -0.295      0.947     15.184
DADHIT         0.150     -0.186     -0.004     14.447
MOMHIT         0.258     -0.047     -0.144      4.216      8.651
DADSPANK       0.044     -0.264      0.101      5.048      1.453     23.905
MOMSPANK       0.221     -0.345     -0.131      2.915      4.153     12.422     40.967

         DETERMINANT = 0.203754E+11
```

```
21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED:PAIRWISE)
09:38:12    University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (PAIRWISE MATRIX)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

         LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
 SDISCUSS     1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 SSPANKS      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RINCOME      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RSPANKS      0.000      0.000      0.000      1.000      0.416      0.000      0.000      0.000      0.000      0.000
 SSLAP        0.000      0.000      0.000      0.000      1.000     -0.508      0.000      0.000      0.000      0.000
 SKICK        0.000     -0.054      0.000      0.000      0.000      1.464      0.000      0.000      0.000      0.000
 RSLAP        0.000      0.000      0.000      0.000      0.000      1.000      0.029      0.000      0.000      0.000
 RKICK        0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
 BABY         0.000      0.000      0.000      0.000      0.000      0.000      0.064      0.000      0.000      0.000
 WORK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000
 DRUNK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000
 ACHIEVER     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000
 MONEY        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         LAMBDA Y

             ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
 SDISCUSS     0.000      0.000      0.000      0.000
 SSPANKS      0.000      0.000      0.000      0.000
 RINCOME      0.000      0.000      0.000      0.000
 RSPANKS      0.000      0.000      0.000      0.000
 SSLAP        0.000      0.000      0.000      0.000
 SKICK        0.000      0.000      0.000      0.000
 RSLAP        0.000      0.000      0.000      0.000
 RKICK        0.000      0.000      0.000      0.000
 BABY         0.000      0.000      0.000      0.000
 WORK         0.000      0.000      0.000      0.000
 DRUNK        0.000      0.000      0.000      0.000
 ACHIEVER     0.000      0.000      0.000      0.000
 MONEY        0.000      0.000      0.000      0.000
 DADHIT       1.000      0.000      0.000      0.000
 MOMHIT       0.000      1.000      0.000      0.000
 DADSPANK     0.000      0.000      1.000      0.000
 MOMSPANK     0.000      0.000      0.000      1.000
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:38:13     University of Alberta


         BETA

                ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 2        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.384      0.000      0.000
   ETA 3        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 4        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 5        0.000      0.071      0.000      0.000      0.000      1.185      0.364      0.131      0.000      0.000
   ETA 6        0.000      0.000     -0.036      0.002     -0.044      0.000     -0.128      0.067      0.038      0.000
   ETA 7        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.012      0.014     -0.005
   ETA 8        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.037      0.000
   ETA 9        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 10        0.000      0.000      1.136      0.000      0.000      0.000      0.000     -0.281     -0.050      0.000
  ETA 11        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         BETA

               ETA 11     ETA 12     ETA 13     ETA 14
              --------   --------   --------   --------
   ETA 1        0.000      0.000      0.000      0.000
   ETA 2        0.000      0.000      0.000      0.000
   ETA 3        0.000      0.000      0.000      0.000
   ETA 4        0.000      0.000      0.000      0.000
   ETA 5        0.000      0.000      0.000      0.000
   ETA 6        0.022      0.000      0.000      0.000
   ETA 7        0.000      0.000      0.000      0.000
   ETA 8        0.000      0.018      0.008     -0.009
   ETA 9        0.012     -0.035     -0.006     -0.001
  ETA 10        0.000      0.000      0.000      0.000
  ETA 11        0.000      0.000      0.000      0.000
  ETA 12        0.000      0.000      0.000      0.000
  ETA 13        0.000      0.000      0.000      0.000
  ETA 14        0.000      0.000      0.000      0.000

         PSI

                ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1       77.352
   ETA 2        9.355     50.524
   ETA 3        2.658     -1.375      7.806
   ETA 4       11.680     37.547     -1.843     51.183
   ETA 5        0.000      0.000      0.000      0.000      2.540
   ETA 6        0.000      0.000      0.000      0.000      0.000      0.582
   ETA 7        0.000      0.000      0.000      0.000      0.000      0.000      0.271
   ETA 8        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.635
   ETA 9        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.124
  ETA 10        0.000      2.371      0.000      0.000      0.000      0.000      0.000      0.000      0.000      5.936
  ETA 11       -0.319     -1.535     -0.259     -1.854      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12        0.280     -0.650     -0.182     -1.051      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13        4.216      0.264     -1.890      2.588      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14        4.882      6.290     -1.353      5.290      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED:PAIRWISE)
09:38:13    University of Alberta

        PSI

              ETA 11    ETA 12    ETA 13    ETA 14
             --------  --------  --------  --------
 ETA 11       11.121
 ETA 12        5.271     6.121
 ETA 13        5.377     2.936    38.903
 ETA 14        4.397     3.928    24.014    49.018

        THETA EPS

             SDISCUSS  SSPANKS   RINCOME   RSPANKS   SSLAP     SKICK     RSLAP     RKICK     BABY      WORK
             --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
 SDISCUSS      8.595
 SSPANKS       0.000     0.051
 RINCOME       0.000     0.000     0.411
 RSPANKS       0.000     0.000     0.000     2.694
 SSLAP         0.000     0.000     0.000     0.000     1.077
 SKICK         0.000     0.000     0.000     0.000     0.000     0.239
 RSLAP         0.000     0.000     0.000     0.000     0.000     0.000     0.075
 RKICK         0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.445
 BABY          0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.029
 WORK          0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.561
 DRUNK         0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
 ACHIEVER      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
 MONEY         0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
 DADHIT        0.000     0.000     0.000     0.000     0.000     0.411     0.000     0.000     0.000     0.000
 MOMHIT        0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
 DADSPANK      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
 MOMSPANK      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

        THETA EPS

             DRUNK     ACHIEVER  MONEY     DADHIT    MOMHIT    DADSPANK  MOMSPANK
             --------  --------  --------  --------  --------  --------  --------
 DRUNK         0.072
 ACHIEVER      0.000     0.126
 MONEY         0.000     0.000     0.842
 DADHIT        0.000     0.000     0.000     0.586
 MOMHIT        0.000     0.000     0.000     0.000     0.322
 DADSPANK      0.000     0.000     0.000     0.000     0.000     2.009
 MOMSPANK      0.000     0.000     0.000     0.000     0.000     0.000     2.580

 W_A_R_N_I_N_G : THE MATRIX THETA EPS   IS NOT POSITIVE DEFINITE

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

             SDISCUSS  SSPANKS   RINCOME   RSPANKS   SSLAP     SKICK     RSLAP     RKICK     BABY      WORK
             --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
               0.900     0.999     0.950     0.950     0.351     0.918     0.941     0.551     0.904     0.002

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

             DRUNK     ACHIEVER  MONEY     DADHIT    MOMHIT    DADSPANK  MOMSPANK
             --------  --------  --------  --------  --------  --------  --------
               0.899     0.900     0.950     0.950     0.950     0.951     0.950
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:38:13    University of Alberta

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
          --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
             0.000      0.001      0.000      0.000      0.241     -0.052      0.002      0.010      0.006      0.630

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

            ETA 11     ETA 12     ETA 13     ETA 14
          --------   --------   --------   --------
             0.000      0.000      0.000      0.000

        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS -0.106


               MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

                    GOODNESS OF FIT INDEX IS 0.973

                  ROOT MEAN SQUARE RESIDUAL IS     0.252
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES:STACKED:PAIRWISE)
09:39:23     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (MALES) (PAIRWISE MATRIX)

STANDARD ERRORS

        LAMBDA Y

              ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7     ETA 8     ETA 9    ETA 10
            --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
SDISCUSS     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
SSPANKS      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
RINCOME      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
RSPANKS      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
SSLAP        0.000     0.000     0.000     0.000     0.033     0.000     0.000     0.000     0.000     0.000
SKICK        0.000     0.018     0.000     0.000     0.000     0.167     0.000     0.000     0.000     0.000
RSLAP        0.000     0.000     0.000     0.000     0.000     0.101     0.000     0.000     0.000     0.000
RKICK        0.000     0.000     0.000     0.000     0.000     0.000     0.068     0.000     0.000     0.000
BABY         0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
WORK         0.000     0.000     0.000     0.000     0.000     0.000     0.073     0.000     0.000     0.000
DRUNK        0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
ACHIEVER     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
MONEY        0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
DADHIT       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
MOMHIT       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
DADSPANK     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
MOMSPANK     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

        LAMBDA Y

             ETA 11    ETA 12    ETA 13    ETA 14
            --------  --------  --------  --------
SDISCUSS     0.000     0.000     0.000     0.000
SSPANKS      0.000     0.000     0.000     0.000
RINCOME      0.000     0.000     0.000     0.000
RSPANKS      0.000     0.000     0.000     0.000
SSLAP        0.000     0.000     0.000     0.000
SKICK        0.000     0.000     0.000     0.000
RSLAP        0.000     0.000     0.000     0.000
RKICK        0.000     0.000     0.000     0.000
BABY         0.000     0.000     0.000     0.000
WORK         0.000     0.000     0.000     0.000
DRUNK        0.000     0.000     0.000     0.000
ACHIEVER     0.000     0.000     0.000     0.000
MONEY        0.000     0.000     0.000     0.000
DADHIT       0.000     0.000     0.000     0.000
MOMHIT       0.000     0.000     0.000     0.000
DADSPANK     0.000     0.000     0.000     0.000
MOMSPANK     0.000     0.000     0.000     0.000
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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:39:23     University of Alberta

        BETA

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9      ETA 10
           ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
  ETA 1      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 2      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.314      0.000      0.000
  ETA 3      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 4      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 5      0.010      0.021      0.000      0.000      0.000      0.078      0.165      0.108      0.000      0.000
  ETA 6      0.000      0.000      0.014      0.006      0.056      0.000      0.078      0.052      0.038      0.000
  ETA 7      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.035      0.026      0.007
  ETA 8      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.041      0.000
  ETA 9      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 10      0.000      0.000      0.048      0.000      0.000      0.000      0.000      0.173      0.128      0.000
 ETA 11      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 12      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 13      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 14      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        BETA

             ETA 11     ETA 12     ETA 13     ETA 14
           ________   ________   ________   ________
  ETA 1      0.000      0.000      0.000      0.000
  ETA 2      0.000      0.000      0.000      0.000
  ETA 3      0.000      0.000      0.000      0.000
  ETA 4      0.000      0.000      0.000      0.000
  ETA 5      0.000      0.000      0.000      0.000
  ETA 6      0.012      0.000      0.000      0.000
  ETA 7      0.000      0.000      0.000      0.000
  ETA 8      0.017      0.023      0.008      0.007
  ETA 9      0.023      0.031      0.011      0.010
 ETA 10      0.000      0.000      0.000      0.000
 ETA 11      0.000      0.000      0.000      0.000
 ETA 12      0.000      0.000      0.000      0.000
 ETA 13      0.000      0.000      0.000      0.000
 ETA 14      0.000      0.000      0.000      0.000

        PSI

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9      ETA 10
           ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
  ETA 1      5.896
  ETA 2      3.207      3.443
  ETA 3      1.293      0.990      0.564
  ETA 4      3.349      3.104      1.023      3.696
  ETA 5      0.000      0.000      0.000      0.000      0.196
  ETA 6      0.000      0.000      0.000      0.000      0.000      0.106
  ETA 7      0.000      0.000      0.000      0.000      0.000      0.000      0.021
  ETA 8      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.049
  ETA 9      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.086
 ETA 10      0.000      0.653      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.502
 ETA 11      1.537      1.174      0.474      1.220      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 12      1.142      0.870      0.352      0.905      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 13      2.884      2.191      0.892      2.281      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 14      3.239      2.479      0.999      2.570      0.000      0.000      0.000      0.000      0.000      0.000
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        PSI

                  ETA 11      ETA 12      ETA 13      ETA 14
                 --------    --------    --------    --------
   ETA 11          0.801
   ETA 12          0.492       0.442
   ETA 13          1.090       0.800       2.807
   ETA 14          1.207       0.905       2.515       3.540

        THETA EPS

                SDISCUSS    SSPANKS     RINCOME     RSPANKS     SSLAP       SKICK       RSLAP       RKICK       BABY        WORK
                --------    --------    --------    --------    --------    --------    --------    --------    --------    --------
 SDISCUSS          0.000
 SSPANKS           0.000       0.000
 RINCOME           0.000       0.000       0.000
 RSPANKS           0.000       0.000       0.000       0.000
 SSLAP             0.000       0.000       0.000       0.000       0.077
 SKICK             0.000       0.000       0.000       0.000       0.000       0.000
 RSLAP             0.000       0.000       0.000       0.000       0.000       0.000       0.066
 RKICK             0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 BABY              0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 WORK              0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.038
 DRUNK             0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ACHIEVER          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MONEY             0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 DADHIT            0.000       0.000       0.000       0.000       0.000       0.188       0.000       0.000       0.000       0.000
 MOMHIT            0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 DADSPANK          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MOMSPANK          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000

        THETA EPS

                DRUNK       ACHIEVER    MONEY       DADHIT      MOMHIT      DADSPANK    MOMSPANK
                --------    --------    --------    --------    --------    --------    --------
 DRUNK             0.000
 ACHIEVER          0.000       0.000
 MONEY             0.000       0.000       0.000
 DADHIT            0.000       0.000       0.000       0.000
 MOMHIT            0.000       0.000       0.000       0.000       0.000
 DADSPANK          0.000       0.000       0.000       0.000       0.000       0.000
 MOMSPANK          0.000       0.000       0.000       0.000       0.000       0.000       0.000
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:39:25    University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES;PAIRWISE MATRIX)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

        LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS       0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME       0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS       0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000
SSLAP         0.000      0.000      0.000      0.000      0.800      0.000      0.000      0.000      0.000      0.000
SKICK         0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000
RSLAP         0.000      0.000      0.000      0.000      0.000      1.055      0.000      0.000      0.000      0.000
RKICK         0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000
BABY          0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
WORK          0.000      0.000      0.000      0.000      0.000      0.000      0.200      0.000      0.000      0.000
DRUNK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000
MONEY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000
DADHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        LAMBDA Y

             ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
SDISCUSS      0.000      0.000      0.000      0.000
SSPANKS       0.000      0.000      0.000      0.000
RINCOME       0.000      0.000      0.000      0.000
RSPANKS       0.000      0.000      0.000      0.000
SSLAP         0.000      0.000      0.000      0.000
SKICK         0.000      0.000      0.000      0.000
RSLAP         0.000      0.000      0.000      0.000
RKICK         0.000      0.000      0.000      0.000
BABY          0.000      0.000      0.000      0.000
WORK          0.000      0.000      0.000      0.000
DRUNK         0.000      0.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000
MONEY         0.000      0.000      0.000      0.000
DADHIT        1.000      0.000      0.000      0.000
MOMHIT        0.000      1.000      0.000      0.000
DADSPANK      0.000      0.000      1.000      0.000
MOMSPANK      0.000      0.000      0.000      1.000
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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:39:25     University of Alberta

         BETA

                ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
 ETA 1           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 2           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 3           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.740      0.000
 ETA 4           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 5           0.000      0.007      0.000      0.000      0.000     -0.044     -0.196      0.000      0.000      0.000
 ETA 6           0.000      0.000     -0.006     -0.007      1.185      0.000      0.073      0.021      0.034      0.000
 ETA 7           0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.061      0.034     -0.002
 ETA 8           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.110      0.000
 ETA 9           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 10          0.000      0.000      1.081      0.000      0.000      0.000      0.000     -0.182     -0.013      0.000
 ETA 11          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 12          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 13          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 14          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         BETA

               ETA 11     ETA 12     ETA 13     ETA 14
              --------   --------   --------   --------
 ETA 1           0.000      0.000      0.000      0.000
 ETA 2           0.000      0.000      0.000      0.000
 ETA 3           0.000      0.000      0.000      0.000
 ETA 4           0.000      0.000      0.000      0.000
 ETA 5           0.000      0.000      0.000      0.000
 ETA 6           0.015      0.000      0.000      0.000
 ETA 7           0.000      0.000      0.000      0.000
 ETA 8           0.001      0.029     -0.003      0.002
 ETA 9          -0.012      0.005     -0.006     -0.007
 ETA 10          0.000      0.000      0.000      0.000
 ETA 11          0.000      0.000      0.000      0.000
 ETA 12          0.000      0.000      0.000      0.000
 ETA 13          0.000      0.000      0.000      0.000
 ETA 14          0.000      0.000      0.000      0.000

         PSI

                ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
 ETA 1          88.546
 ETA 2           7.930     62.055
 ETA 3           2.299     -1.964      7.033
 ETA 4          10.345     33.555     -1.088     34.980
 ETA 5           0.000      0.000      0.000      0.000      0.569
 ETA 6           0.000      0.000      0.000      0.000      0.000      0.517
 ETA 7           0.000      0.000      0.000      0.000      0.000      0.000      0.339
 ETA 8           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.826
 ETA 9           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.090
 ETA 10          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      5.355
 ETA 11          0.002      1.295     -0.379     -0.503      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 12          0.320      0.028     -0.092     -0.696      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 13          1.456      4.939     -0.313      2.925      0.000      0.000      0.000      0.000      0.000      0.000
 ETA 14          2.975      6.462     -0.334      3.492      0.000      0.000      0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:39:25     University of Alberta

        PSI

              ETA 11     ETA 12     ETA 13     ETA 14
 ETA 11       13.725
 ETA 12        4.213      8.219
 ETA 13        5.044      1.453     22.710
 ETA 14        2.913      4.153     12.422     38.919

        THETA EPS

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
SDISCUSS      1.807
SSPANKS       0.000      1.266
RINCOME       0.000      0.000      0.406
RSPANKS       0.000      0.000      0.000      0.353
SSLAP         0.000      0.000      0.000      0.000      0.334
SKICK         0.000      0.000      0.000      0.000      0.000      0.030
RSLAP         0.000      0.000      0.000      0.000      0.000      0.000      1.873
RKICK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.064
BABY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.038
WORK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.751
DRUNK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MONEY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        THETA EPS

            DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
DRUNK         0.094
ACHIEVER      0.000      0.122
MONEY         0.000      0.000      0.759
DADHIT        0.000      0.000      0.000      0.722
MOMHIT        0.000      0.000      0.000      0.000      0.433
DADSPANK      0.000      0.000      0.000      0.000      0.000      1.195
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      2.048

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSLAP      SKICK      RSLAP      RKICK      BABY       WORK
              0.980      0.980      0.950      0.990      0.504      0.946      0.419      0.950      0.900      0.018

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

            DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
              0.900      0.900      0.950      0.950      0.950      0.950      0.950

        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:39:25    University of Alberta

       SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

         ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7     ETA 8     ETA 9    ETA 10
        ________  ________  ________  ________  ________  ________  ________  ________  ________  ________
         0.000     0.000     0.080     0.000    -0.073     0.570     0.014     0.025     0.005     0.626

       SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

         ETA 11    ETA 12    ETA 13    ETA 14
        ________  ________  ________  ________
         0.000     0.000     0.000     0.000

       TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS -0.106


                MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

    CHI-SQUARE WITH 152 DEGREES OF FREEDOM IS    219.00 (PROB. LEVEL = 0.000)

                         GOODNESS OF FIT INDEX IS 0.974

                      ROOT MEAN SQUARE RESIDUAL IS     0.329
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University of Alberta

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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:40:35     University of Alberta

TITLE  EXPLAINING PHYSICAL VIOLENCE (FEMALES;PAIRWISE MATRIX)

STANDARD ERRORS

         LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSLAP        0.000      0.000      0.000      0.000      0.037      0.000      0.000      0.000      0.000      0.000
SKICK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSLAP        0.000      0.000      0.000      0.000      0.000      0.058      0.000      0.000      0.000      0.000
RKICK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
BABY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
WORK         0.000      0.000      0.000      0.000      0.000      0.000      0.070      0.000      0.000      0.000
DRUNK        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ACHIEVER     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MONEY        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         LAMBDA Y

             ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
SDISCUSS     0.000      0.000      0.000      0.000
SSPANKS      0.000      0.000      0.000      0.000
RINCOME      0.000      0.000      0.000      0.000
RSPANKS      0.000      0.000      0.000      0.000
SSLAP        0.000      0.000      0.000      0.000
SKICK        0.000      0.000      0.000      0.000
RSLAP        0.000      0.000      0.000      0.000
RKICK        0.000      0.000      0.000      0.000
BABY         0.000      0.000      0.000      0.000
WORK         0.000      0.000      0.000      0.000
DRUNK        0.000      0.000      0.000      0.000
ACHIEVER     0.000      0.000      0.000      0.000
MONEY        0.000      0.000      0.000      0.000
DADHIT       0.000      0.000      0.000      0.000
MOMHIT       0.000      0.000      0.000      0.000
DADSPANK     0.000      0.000      0.000      0.000
MOMSPANK     0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93   EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:40:35    University of Alberta

       BETA

                  ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9      ETA 10
               --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
    ETA 1        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 2        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 3        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.122      0.000
    ETA 4        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 5        0.004      0.004      0.000      0.000      0.000      0.056      0.063      0.000      0.000      0.000
    ETA 6        0.000      0.000      0.014      0.006      0.078      0.000      0.066      0.041      0.037      0.000
    ETA 7        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.032      0.029      0.008
    ETA 8        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.043      0.000
    ETA 9        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 10       0.000      0.000      0.045      0.000      0.000      0.000      0.000      0.132      0.122      0.000
    ETA 11       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 12       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 13       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 14       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

       BETA

                  ETA 11     ETA 12     ETA 13     ETA 14
               --------   --------   --------   --------
    ETA 1        0.000      0.000      0.000      0.000
    ETA 2        0.000      0.000      0.000      0.000
    ETA 3        0.000      0.000      0.000      0.000
    ETA 4        0.000      0.000      0.000      0.000
    ETA 5        0.000      0.000      0.000      0.000
    ETA 6        0.010      0.000      0.000      0.000
    ETA 7        0.000      0.000      0.000      0.000
    ETA 8        0.014      0.017      0.011      0.008
    ETA 9        0.016      0.020      0.012      0.009
    ETA 10       0.000      0.000      0.000      0.000
    ETA 11       0.000      0.000      0.000      0.000
    ETA 12       0.000      0.000      0.000      0.000
    ETA 13       0.000      0.000      0.000      0.000
    ETA 14       0.000      0.000      0.000      0.000

       PSI

                  ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9      ETA 10
               --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
    ETA 1        5.703
    ETA 2        3.394      3.997
    ETA 3        1.164      0.975      0.474
    ETA 4        2.564      2.588      0.727      2.230
    ETA 5        0.000      0.000      0.000      0.000      0.081
    ETA 6        0.000      0.000      0.000      0.000      0.000      0.039
    ETA 7        0.000      0.000      0.000      0.000      0.000      0.000      0.024
    ETA 8        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.058
    ETA 9        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.076
    ETA 10       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.416
    ETA 11       1.613      1.351      0.465      1.009      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 12       1.248      1.045      0.359      0.781      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 13       2.075      1.750      0.598      1.304      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 14       2.719      2.291      0.782      1.705      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93    EXPLAINING PHYSICAL VIOLENCE (BOTH SEXES;STACKED;PAIRWISE)
09:40:35     University of Alberta

          PSI

               ETA 11      ETA 12      ETA 13      ETA 14
  ETA 11        0.912
  ETA 12        0.533       0.546
  ETA 13        0.859       0.645       1.509
  ETA 14        1.094       0.860       1.503       2.586

          THETA EPS

             SDISCUSS    SSPANKS     RINCOME     RSPANKS     SSLAP       SKICK       RSLAP       RKICK       BABY        WORK
 SDISCUSS       0.000
 SSPANKS        0.000       0.000
 RINCOME        0.000       0.000       0.000
 RSPANKS        0.000       0.000       0.000       0.000
 SSLAP          0.000       0.000       0.000       0.000       0.022
 SKICK          0.000       0.000       0.000       0.000       0.000       0.000
 RSLAP          0.000       0.000       0.000       0.000       0.000       0.000       0.122
 RKICK          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 BABY           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 WORK           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.048
 DRUNK          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ACHIEVER       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MONEY          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 DADHIT         0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MOMHIT         0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 DADSPANK       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MOMSPANK       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000

          THETA EPS

             DRUNK       ACHIEVER    MONEY       DADHIT      MOMHIT      DADSPANK    MOMSPANK
 DRUNK          0.000
 ACHIEVER       0.000       0.000
 MONEY          0.000       0.000       0.000
 DADHIT         0.000       0.000       0.000       0.000
 MOMHIT         0.000       0.000       0.000       0.000       0.000
 DADSPANK       0.000       0.000       0.000       0.000       0.000       0.000
 MOMSPANK       0.000       0.000       0.000       0.000       0.000       0.000       0.000
```

APPENDIX 3.
COMPUTER OUTPUT: EXPLAINING PSYCHOLOGICAL VIOLENCE (LISTWISE MATRIX)

```
21 Aug 93   SPSS-X RELEASE 3.0 FOR IBM MTS
09:31:36    University of Alberta


For                       University of Alberta                License Number 30
This software is functional through January 31, 1999.

Try the new SPSS-X Release 3.0 features:

* Interactive SPSS-X command execution          * Improvements in:
* Online Help                                   *    REPORT
* Nonlinear Regression                          *    TABLES
* Time Series and Forecasting (TRENDS)          *    Simplified Syntax
* Macro Facility                                *    Matrix I/O

See SPSS-X User's Guide, Third Edition for more information on these features.

    1  0  title 'EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)'
    2  0  file handle #8/name='THESIS.MALES'
    3  0  file handle #9/name='THESIS.FEMAL'
    4  0  INPUT PROGRAM
    5  0  NUMERIC A
    6  0  END FILE
    7  0  END INPUT PROGRAM
    8  0  USERPROC NAME=LISREL
    9  0  TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (MALE HALF)
   10  0  DA NI=21 NO=332 MA=CM NG=2
   11  0  CM UN=8 FU FO
   12  0  (21F10.5)
   13  0  LA
   14  0   'RSPANKS' 'RINCOME' 'SDISCUSS' 'SSPANKS' 'SSPITE'
   15  0   'SINSULT' 'SSLAP' 'SKICK' 'RSPITE' 'RINSULT'
   16  0   'RSLAP' 'RKICK' 'BABY' 'WORK' 'DRUNK' 'ACHIEVER'
   17  0   'MONEY' 'DADHIT' 'MOMHIT' 'MOMSPANK' 'DADSPANK'
   18  0  SE
   19  0   'SDISCUSS' 'SSPANKS' 'RINCOME' 'RSPANKS' 'SSPITE'
   20  0   'SINSULT'                    'RSPITE' 'RINSULT'
   21  0   'BABY' 'WORK' 'DRUNK' 'ACHIEVER' 'MONEY' 'DADHIT'
   22  0   'MOMHIT' 'DADSPANK' 'MOMSPANK'/
   23  0  MO NY=17 NE=14 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
   24  0  VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4)
   25  0  VA 1.0 LY(5,5)
   26  0  VA 1.0 LY(7,6)
   27  0  VA 1.0 LY(9,7)
   28  0  VA 1.0 LY(11,8) LY(12,9) LY(13,10) LY(14,11)
   29  0  VA 1.0 LY(15,12) LY(16,13) LY(17,14)
   30  0  FR LY(6,5)
   31  0  FR LY(8,6)
   32  0  FR LY(10,7)
   33  0  FR BE(5,1) BE(5,2)  BE(5,7)
   34  0  FR BE(6,3) BE(6,4) BE(6,5) BE(6,7) BE(6,8) BE(6,9)
   35  0  FR BE(7,8) BE(7,9) BE(7,10)
   36  0  FR BE(8,9) BE(8,11) BE(8,12) BE(8,13) BE(8,14)
   37  0  FR BE(9,11) BE(9,12) BE(9,13) BE(9,14)
   38  0  FR PS(5,5) PS(6,6) PS(7,7) PS(8,8) PS(9,9) PS(10,10)
   39  0  FR PS(1,1) PS(2,1) PS(3,1) PS(4,1) PS(11,1) PS(12,1) PS(13,1)
   40  0  FR PS(14,1)
   41  0  FR PS(2,2) PS(2,3) PS(2,4) PS(2,11) PS(2,12) PS(2,13) PS(2,14)
   42  0  FR PS(3,3) PS(3,4) PS(3,11 PS(3,12) PS(3,13) PS(3,14)
   43  0  FR PS(4,4) PS(4,11) PS(4,12) PS(4,13) PS(4,14)
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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:31:40    University of Alberta

  44  O  FR PS(11,11) PS(11,12) PS(11,13) PS(11,14)
  45  O  FR PS(12,12) PS(12,13) PS(12,14)
  46  O  FR PS(13,13) PS(13,14)
  47  O  FR PS(14,14)
  48  O  VA  16.136 TE(1,1)
  49  O  VA   5.807 TE(2,2)
  50  O  VA   0.360 TE(3,3)
  51  O  VA   5.892 TE(4,4)
  52  O  VA   3.674 TE(5,5)
  53  O  VA   3.340 TE(7,7)
  54  O  VA   0.015 TE(9,9)
  55  O  VA   0.107 TE(11,11)
  56  O  VA   0.177 TE(12,12)
  57  O  VA   1.622 TE(13,13)
  58  O  VA   0.366 TE(14,14)
  59  O  VA   0.355 TE(15,15)
  60  O  VA   4.793 TE(16,16)
  61  O  VA   4.921 TE(17,17)
  62  O  FR TE(6,6) TE(8,8) TE(10,10)
  63  O  ST .01 BE(9,13) BE(9,14)
  64  O  ST -.01 BE(9,11) BE(9,12)
  65  O  ST -.01 BE(8,13) BE(8,14)
  66  O  ST .01 BE(8,11) BE(8,12)
  67  O  FR BE(10,9)
  68  O  FR BE(10,3)
  69  O  ST 0.5 BE(5,6) BE(6,5)
  70  O  FR BE(5,6)
  71  O  FR TE(8,6)
  72  O  FR TE(16,8)
  73  O  FR TE(6,2)
  74  O  FR TE(16,5)
  75  O  FR TE(11,8)
  76  O  FR TE(11,6)
  77  O  FR BE(10,8)
  78  O  VA 0.220 BE(5,6)
  79  O  VA 0.638 BE(6,5)
  80  O  OU ML AL
  81  O  TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (FEMALE HALF)
  82  O  DA NI=21 NO=300 MA=CM
  83  O  CM UN=9 FU FO
  84  O  (21F10.5)
  85  O  LA
  86  O   'RSPANKS' 'RINCOME' 'SDISCUSS' 'SSPANKS' 'SSPITE'
  87  O   'SINSULT' 'SSLAP' 'SKICK' 'RSPITE' 'RINSULT'
  88  O   'RSLAP' 'RKICK' 'BABY' 'WORK' 'DRUNK' 'ACHIEVER'
  89  O   'MONEY' 'DADHIT' 'MOMHIT' 'MOMSPANK' 'DADSPANK'
  90  O  SE
  91  O   'SDISCUSS' 'SSPANKS' 'RINCOME' 'RSPANKS' 'SSPITE'
  92  O   'SINSULT'                   'RSPITE' 'RINSULT'
  93  O   'BABY' 'WORK' 'DRUNK' 'ACHIEVER' 'MONEY' 'DADHIT'
  94  O   'MOMHIT' 'DADSPANK' 'MOMSPANK'/
  95  O  MO NY=17 NE=14 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
  96  O  VA 1.0 LY(1,1) LY(2,2) LY(3,3) LY(4,4)
  97  O  VA 1.0 LY(5,5)
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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:31:40     University of Alberta

  98  0  VA 1.0 LY(7,6)
  99  0  VA 1.0 LY(9,7)
 100  0  VA 1.0 LY(11,8) LY(12,9) LY(13,10) LY(14,11)
 101  0  VA 1.0 LY(15,12) LY(16,13) LY(17,14)
 102  0  FR LY(6,5)
 103  0  FR LY(8,6)
 104  0  FR LY(10,7)
 105  0  FR BE(5,1) BE(5,2)  BE(5,7)
 106  0  FR BE(6,3) BE(6,4) BE(6,5) BE(6,7) BE(6,8) BE(6,9)
 107  0  FR BE(7,8) BE(7,9) BE(7,10)
 108  0  FR BE(8,9) BE(8,11) BE(8,12) BE(8,13) BE(8,14)
 109  0  FR BE(9,11) BE(9,12) BE(9,13) BE(9,14)
 110  0  FR PS(5,5) PS(6,6) PS(7,7) PS(8,8) PS(9,9) PS(10,10)
 111  0  FR PS(1,1) PS(2,1) PS(3,1) PS(4,1) PS(11,1) PS(12,1) PS(13,1)
 112  0  FR PS(14,1)
 113  0  FR PS(2,2) PS(2,3) PS(2,4) PS(2,11) PS(2,12) PS(2,13) PS(2,14)
 114  0  FR PS(3,3) PS(3,4) PS(3,11 PS(3,12) PS(3,13) PS(3,14)
 115  0  FR PS(4,4) PS(4,11) PS(4,12) PS(4,13) PS(4,14)
 116  0  FR PS(11,11) PS(11,12) PS(11,13) PS(11,14)
 117  0  FR PS(12,12) PS(12,13) PS(12,14)
 118  0  FR PS(13,13) PS(13,14)
 119  0  FR PS(14,14)
 120  0  VA   4.300 TE(1,1)
 121  0  VA   5.807  TE(2,2)
 122  0  VA   0.360 TE(3,3)
 123  0  VA   1.903 TE(4,4)
 124  0  VA   3.674 TE(5,5)
 125  0  VA   6.680 TE(7,7)
 126  0  VA   0.015  TE(9,9)
 127  0  VA   0.107 TE(11,11)
 128  0  VA   0.177 TE(12,12)
 129  0  VA   1.622 TE(13,13)
 130  0  VA   0.811 TE(14,14)
 131  0  VA   0.438 TE(15,15)
 132  0  VA   1.134 TE(16,16)
 133  0  VA   3.690 TE(17,17)
 134  0  FR TE(6,6) TE(8,8) TE(10,10)
 135  0  ST .01 BE(9,13) BE(9,14)
 136  0  ST -.01 BE(9,11) BE(9,12)
 137  0  ST -.01 BE(8,13) BE(8,14)
 138  0  ST .01 BE(8,11) BE(8,12)
 139  0  FR BE(10,9)
 140  0  FR PS(10,3)
 141  0  ST 0.5 BE(5,6) BE(6,5)
 142  0  FR BE(5,6)
 143  0  FR TE(8,6)
 144  0  FR BE(3,9)
 145  0  FR BE(4,7)
 146  0  EQ BE(1,5,6) BE(6,5)
 147  0  EQ BE(1,6,5) BE(5,6)
 148  0  OU ML AL
 149  0  END USER
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University of Alberta

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:31:41    University of Alberta

TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (MALE HALF)

         COVARIANCE MATRIX TO BE ANALYZED

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSPITE     SINSULT    RSPITE     RINSULT    BABY       WORK
SDISCUSS     80.658
SSPANKS      12.314     58.074
RINCOME       2.760     -1.098      7.204
RSPANKS      12.979     43.499     -1.712     58.921
SSPITE        2.095      9.803     -0.497      8.776     18.372
SINSULT       2.850     14.856     -0.963     10.784     10.149     26.202
RSPITE        3.830      7.254      0.258      7.125     10.835      8.208     16.702
RINSULT       6.773     10.848     -0.158      9.087      9.762     20.904     12.028     32.384
BABY          0.154      0.059     -0.032     -0.320      0.172      0.263      0.438      0.437      0.313
WORK         -0.210      0.582     -0.016      0.316      0.080      0.046     -0.056     -0.112      0.028      0.660
DRUNK        -0.203      0.901     -0.060      0.745      0.106      0.804      0.273      1.186     -0.008      0.064
ACHIEVER      0.558      0.353      0.268      0.310     -0.093      0.229      0.240      0.329      0.048      0.053
MONEY         3.825      1.616      8.064     -1.709     -0.475     -0.366      0.609      0.195     -0.073      0.150
DADHIT       -0.966     -1.369     -0.632     -1.797      0.407      0.961      0.683      0.720      0.023      0.039
MOMHIT        1.028     -0.831     -0.098     -1.335      0.222      0.555      0.153     -0.036      0.087      0.072
DADSPANK      3.959     -1.356     -2.163      1.176      3.746      2.296      1.502      7.025     -0.081     -0.671
MOMSPANK     10.978      7.503     -1.087      5.666      0.620      2.296      2.017      3.380      0.294     -0.501

         COVARIANCE MATRIX TO BE ANALYZED

            DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
DRUNK         0.714
ACHIEVER     -0.059      1.182
MONEY        -0.338      0.341     16.228
DADHIT       -0.131      0.014     -0.585      7.337
MOMHIT       -0.094     -0.020     -0.297      5.800      7.109
DADSPANK     -0.562     -0.061     -2.347      4.297      3.126     47.934
MOMSPANK     -0.596     -0.027     -1.554      4.214      5.503     22.044     49.212

         DETERMINANT = 0.651434E+15
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University of Alberta

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:31:41    University of Alberta

TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (FEMALE HALF)

         COVARIANCE MATRIX TO BE ANALYZED

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSPITE     SINSULT    RSPITE     RINSULT    BABY       WORK
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS      86.007
SSPANKS        8.255     64.462
RINCOME        3.769     -2.070      6.584
RSPANKS       10.735     35.538     -1.590     38.060
SSPITE        -0.659      5.993     -1.329      6.877     32.512
SINSULT       -1.425      7.774     -1.034      4.282     23.274     42.964
RSPITE        -1.892      2.509     -0.976      4.975     21.311     17.224     35.264
RINSULT        0.741      5.720     -0.554      5.180     21.907     32.495     28.364     53.382
BABY           0.349      0.108     -0.092     -0.352     -0.032     -0.281     -0.289     -0.246      0.443
WORK          -0.328     -0.223      0.007     -0.256     -0.208     -0.470     -0.637     -0.834      0.091      0.710
DRUNK          0.079      0.219     -0.176      0.354      0.936      0.986      1.688      2.278     -0.098     -0.054
ACHIEVER       0.975     -0.436      0.580     -0.056     -0.197     -0.504     -0.127      0.158      0.060     -0.094
MONEY          5.656     -0.073      6.873     -0.089     -1.427     -2.690     -1.131     -1.640     -0.045      0.040
DADHIT        -0.934      0.389     -1.199     -0.931      0.126      0.659      1.015     -0.482      0.039      0.040
MOMHIT        -1.269     -0.752     -0.608     -1.626      0.671      0.133      1.812      1.176      0.057      0.022
DADSPANK       3.122      3.775     -1.294      3.091      3.424      2.710      1.557      2.423      0.041      0.079
MOMSPANK       6.886      3.638     -0.522      1.890      4.213      1.926      1.025      1.490      0.113      0.163

         COVARIANCE MATRIX TO BE ANALYZED

            DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
            --------   --------   --------   --------   --------   --------   --------
DRUNK          0.954
ACHIEVER      -0.067      0.876
MONEY         -0.323      0.600     12.688
DADHIT         0.061      0.001     -0.953     16.221
MOMHIT         0.441      0.083     -0.693      3.458      8.760
DADSPANK       0.046     -0.065     -1.136      5.342      0.301     22.687
MOMSPANK       0.128      0.051     -0.529      2.519      4.221     10.083     36.901

         DETERMINANT = 0.140613E+17
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University of Alberta

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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:32:26     University of Alberta

TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (MALE HALF)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

        LAMBDA Y

            ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
         --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS    1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS     0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME     0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS     0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPITE      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000
SINSULT     0.000      0.000      0.000      0.000      0.695      0.000      0.000      0.000      0.000      0.000
RSPITE      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000
RINSULT     0.000      0.000      0.000      0.000      0.000      0.853      0.000      0.000      0.000      0.000
BABY        0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
WORK        0.000      0.000      0.000      0.000      0.000      0.000      0.093      0.000      0.000      0.000
DRUNK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000
ACHIEVER    0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000
MONEY       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000
DADHIT      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK    0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK    0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        LAMBDA Y

           ETA 11     ETA 12     ETA 13     ETA 14
         --------   --------   --------   --------
SDISCUSS    0.000      0.000      0.000      0.000
SSPANKS     0.000      0.000      0.000      0.000
RINCOME     0.000      0.000      0.000      0.000
RSPANKS     0.000      0.000      0.000      0.000
SSPITE      0.000      0.000      0.000      0.000
SINSULT     0.000      0.000      0.000      0.000
RSPITE      0.000      0.000      0.000      0.000
RINSULT     0.000      0.000      0.000      0.000
BABY        0.000      0.000      0.000      0.000
WORK        0.000      0.000      0.000      0.000
DRUNK       0.000      0.000      0.000      0.000
ACHIEVER    0.000      0.000      0.000      0.000
MONEY       0.000      0.000      0.000      0.000
DADHIT      1.000      0.000      0.000      0.000
MOMHIT      0.000      1.000      0.000      0.000
DADSPANK    0.000      0.000      1.000      0.000
MOMSPANK    0.000      0.000      0.000      1.000
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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:32:27     University of Alberta


          BETA

                 ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
    ETA 1       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 2       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 3       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 4       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
    ETA 5      -0.013      0.156      0.000      0.000      0.000      0.318      0.200      0.000      0.000      0.000
    ETA 6       0.000      0.000      0.086      0.039      0.572      0.000      1.127      0.277      0.152      0.000
    ETA 7       0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.017      0.049     -0.006
    ETA 8       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.065      0.000
    ETA 9       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 10       0.000      0.000      1.220      0.000      0.000      0.000      0.000     -0.451      0.002      0.000
   ETA 11       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 12       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 13       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 14       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

          BETA

                ETA 11     ETA 12     ETA 13     ETA 14
              ________   ________   ________   ________
    ETA 1       0.000      0.000      0.000      0.000
    ETA 2       0.000      0.000      0.000      0.000
    ETA 3       0.000      0.000      0.000      0.000
    ETA 4       0.000      0.000      0.000      0.000
    ETA 5       0.000      0.000      0.000      0.000
    ETA 6       0.000      0.000      0.000      0.000
    ETA 7       0.000      0.000      0.000      0.000
    ETA 8      -0.030      0.025     -0.007     -0.012
    ETA 9       0.012     -0.013     -0.000      0.000
   ETA 10       0.000      0.000      0.000      0.000
   ETA 11       0.000      0.000      0.000      0.000
   ETA 12       0.000      0.000      0.000      0.000
   ETA 13       0.000      0.000      0.000      0.000
   ETA 14       0.000      0.000      0.000      0.000

          PSI

                 ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
    ETA 1      64.518
    ETA 2      12.665     51.245
    ETA 3       2.798     -0.781      6.844
    ETA 4      13.028     42.713     -1.669     53.031
    ETA 5       0.000      0.000      0.000      0.000      7.716
    ETA 6       0.000      0.000      0.000      0.000      0.000      5.064
    ETA 7       0.000      0.000      0.000      0.000      0.000      0.000      0.295
    ETA 8       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.594
    ETA 9       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.005
   ETA 10       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      4.265
   ETA 11      -0.974     -1.488     -0.619     -1.791      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 12       1.014     -0.959     -0.115     -1.328      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 13       3.046     -1.528     -2.160      1.746      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 14      11.011      7.304     -1.114      5.642      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:32:27     University of Alberta


        PSI

               ETA 11      ETA 12      ETA 13      ETA 14
  ETA 11        6.971
  ETA 12        5.800       6.754
  ETA 13        4.387       3.268      43.199
  ETA 14        4.214       5.503      22.148      44.293

        THETA EPS

            SDISCUSS    SSPANKS     RINCOME     RSPANKS     SSPITE      SINSULT     RSPITE      RINSULT     BABY        WORK
SDISCUSS      16.136
SSPANKS        0.000       5.807
RINCOME        0.000       0.000       0.360
RSPANKS        0.000       0.000       0.000       5.892
SSPITE         0.000       0.000       0.000       0.000       3.674
SINSULT        0.000       3.473       0.000       0.000       0.000      18.460
RSPITE         0.000       0.000       0.000       0.000       0.000       0.000       3.340
RINSULT        0.000       0.000       0.000       0.000       0.000      13.178       0.000      21.504
BABY           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.015
WORK           0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.658
DRUNK          0.000       0.000       0.000       0.000       0.000       0.713       0.000       1.015       0.000       0.000
ACHIEVER       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
MONEY          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
DADHIT         0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
MOMHIT         0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
DADSPANK       0.000       0.000       0.000       0.000       2.980       0.000       0.000       4.540       0.000       0.000
MOMSPANK       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000

        THETA EPS

            DRUNK       ACHIEVER    MONEY       DADHIT      MOMHIT      DADSPANK    MOMSPANK
DRUNK          0.107
ACHIEVER       0.000       0.177
MONEY          0.000       0.000       1.622
DADHIT         0.000       0.000       0.000       0.366
MOMHIT         0.000       0.000       0.000       0.000       0.355
DADSPANK       0.000       0.000       0.000       0.000       0.000       4.793
MOMSPANK       0.000       0.000       0.000       0.000       0.000       0.000       4.921

W_A_R_N_I_N_G : THE MATRIX THETA EPS   IS NOT POSITIVE DEFINITE

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

            SDISCUSS    SSPANKS     RINCOME     RSPANKS     SSPITE      SINSULT     RSPITE      RINSULT     BABY        WORK
               0.800       0.900       0.950       0.900       0.800       0.295       0.800       0.336       0.952       0.004

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

            DRUNK       ACHIEVER    MONEY       DADHIT      MOMHIT      DADSPANK    MOMSPANK
               0.850       0.850       0.900       0.950       0.950       0.900       0.900
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University of Alberta

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       SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

          ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
        ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
          0.000      0.000      0.000      0.000      0.467      0.619      0.011      0.031      0.000      0.706

       SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

         ETA 11     ETA 12     ETA 13     ETA 14
        ________   ________   ________   ________
          0.000      0.000      0.000      0.000

       TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS  0.330


               MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

                    GOODNESS OF FIT INDEX IS 0.967

                 ROOT MEAN SQUARE RESIDUAL IS     1.047
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University of Alberta

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:35    University of Alberta

TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (MALE HALF)

STANDARD ERRORS

        LAMBDA Y

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
SDISCUSS       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPITE         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SINSULT        0.000      0.000      0.000      0.000      0.066      0.000      0.000      0.000      0.000      0.000
RSPITE         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINSULT        0.000      0.000      0.000      0.000      0.000      0.074      0.000      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000      0.000      0.000      0.084      0.000      0.000      0.000
DRUNK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MONEY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        LAMBDA Y

              ETA 11     ETA 12     ETA 13     ETA 14
SDISCUSS       0.000      0.000      0.000      0.000
SSPANKS        0.000      0.000      0.000      0.000
RINCOME        0.000      0.000      0.000      0.000
RSPANKS        0.000      0.000      0.000      0.000
SSPITE         0.000      0.000      0.000      0.000
SINSULT        0.000      0.000      0.000      0.000
RSPITE         0.000      0.000      0.000      0.000
RINSULT        0.000      0.000      0.000      0.000
BABY           0.000      0.000      0.000      0.000
WORK           0.000      0.000      0.000      0.000
DRUNK          0.000      0.000      0.000      0.000
ACHIEVER       0.000      0.000      0.000      0.000
MONEY          0.000      0.000      0.000      0.000
DADHIT         0.000      0.000      0.000      0.000
MOMHIT         0.000      0.000      0.000      0.000
DADSPANK       0.000      0.000      0.000      0.000
MOMSPANK       0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:35    University of Alberta

         BETA

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 2       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 3       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 4       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 5       0.025      0.033      0.000      0.000      0.000      0.134      0.395      0.000      0.000      0.000
   ETA 6       0.000      0.000      0.062      0.028      0.099      0.000      0.311      0.222      0.171      0.000
   ETA 7       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.041      0.033      0.008
   ETA 8       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.048      0.000
   ETA 9       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 10       0.000      0.000      0.055      0.000      0.000      0.000      0.000      0.188      0.151      0.000
  ETA 11       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         BETA

              ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
   ETA 1       0.000      0.000      0.000      0.000
   ETA 2       0.000      0.000      0.000      0.000
   ETA 3       0.000      0.000      0.000      0.000
   ETA 4       0.000      0.000      0.000      0.000
   ETA 5       0.000      0.000      0.000      0.000
   ETA 6       0.000      0.000      0.000      0.000
   ETA 7       0.000      0.000      0.000      0.000
   ETA 8       0.038      0.039      0.009      0.009
   ETA 9       0.050      0.052      0.011      0.012
  ETA 10       0.000      0.000      0.000      0.000
  ETA 11       0.000      0.000      0.000      0.000
  ETA 12       0.000      0.000      0.000      0.000
  ETA 13       0.000      0.000      0.000      0.000
  ETA 14       0.000      0.000      0.000      0.000

         PSI

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1       6.269
   ETA 2       3.761      4.402
   ETA 3       1.331      1.104      0.560
   ETA 4       3.856      3.939      1.134      4.580
   ETA 5       0.000      0.000      0.000      0.000      1.663
   ETA 6       0.000      0.000      0.000      0.000      0.000      0.816
   ETA 7       0.000      0.000      0.000      0.000      0.000      0.000      0.024
   ETA 8       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.055
   ETA 9       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.092
  ETA 10       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.500
  ETA 11       1.338      1.118      0.400      1.147      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12       1.317      1.098      0.393      1.127      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13       3.334      2.813      0.998      2.851      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14       3.515      2.914      1.035      2.976      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:35    University of Alberta

        PSI

               ETA 11     ETA 12     ETA 13     ETA 14
  ETA 11        0.570
  ETA 12        0.509      0.553
  ETA 13        1.031      1.003      3.676
  ETA 14        1.070      1.072      2.867      3.826

        THETA EPS

            SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSPITE     SINSULT    RSPITE     RINSULT    BABY       WORK
 SDISCUSS       0.000
 SSPANKS        0.000      0.000
 RINCOME        0.000      0.000      0.000
 RSPANKS        0.000      0.000      0.000      0.000
 SSPITE         0.000      0.000      0.000      0.000      0.000
 SINSULT        0.000      0.948      0.000      0.000      0.000      1.516
 RSPITE         0.000      0.000      0.000      0.000      0.000      0.000      0.000
 RINSULT        0.000      0.000      0.000      0.000      0.000      1.368      0.000      1.803
 BABY           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 WORK           0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.051
 DRUNK          0.000      0.000      0.000      0.000      0.000      0.203      0.000      0.230      0.000      0.000
 ACHIEVER       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MONEY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 MOMHIT         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
 DADSPANK       0.000      0.000      0.000      0.000      1.002      0.000      0.000      1.232      0.000      0.000
 MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        THETA EPS

            DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
 DRUNK          0.000
 ACHIEVER       0.000      0.000
 MONEY          0.000      0.000      0.000
 DADHIT         0.000      0.000      0.000      0.000
 MOMHIT         0.000      0.000      0.000      0.000      0.000
 DADSPANK       0.000      0.000      0.000      0.000      0.000      0.000
 MOMSPANK       0.000      0.000      0.000      0.000      0.000      0.000      0.000
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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:38    University of Alberta

TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (FEMALE HALF)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

        LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
SDISCUSS      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS       0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME       0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS       0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPITE        0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000      0.000
SINSULT       0.000      0.000      0.000      0.000      0.804      0.000      0.000      0.000      0.000      0.000
RSPITE        0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000      0.000
RINSULT       0.000      0.000      0.000      0.000      0.000      1.012      0.000      0.000      0.000      0.000
BABY          0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000      0.000
WORK          0.000      0.000      0.000      0.000      0.000      0.000      0.213      0.000      0.000      0.000
DRUNK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000      0.000
MONEY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      1.000
DADHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        LAMBDA Y

             ETA 11     ETA 12     ETA 13     ETA 14
            --------   --------   --------   --------
SDISCUSS      0.000      0.000      0.000      0.000
SSPANKS       0.000      0.000      0.000      0.000
RINCOME       0.000      0.000      0.000      0.000
RSPANKS       0.000      0.000      0.000      0.000
SSPITE        0.000      0.000      0.000      0.000
SINSULT       0.000      0.000      0.000      0.000
RSPITE        0.000      0.000      0.000      0.000
RINSULT       0.000      0.000      0.000      0.000
BABY          0.000      0.000      0.000      0.000
WORK          0.000      0.000      0.000      0.000
DRUNK         0.000      0.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000
MONEY         0.000      0.000      0.000      0.000
DADHIT        1.000      0.000      0.000      0.000
MOMHIT        0.000      1.000      0.000      0.000
DADSPANK      0.000      0.000      1.000      0.000
MOMSPANK      0.000      0.000      0.000      1.000
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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:38     University of Alberta

         BETA

                ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 2        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 3        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.807      0.000
   ETA 4        0.000      0.000      0.000      0.000      0.000      0.000     -1.049      0.000      0.000      0.000
   ETA 5       -0.016      0.079      0.000      0.000      0.000      0.572      0.131      0.000      0.000      0.000
   ETA 6        0.000      0.000     -0.054      0.070      0.318      0.000     -0.090      1.756      0.315      0.000
   ETA 7        0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.114      0.084     -0.014
   ETA 8        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000     -0.105      0.000
   ETA 9        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 10        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.866      0.000
  ETA 11        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         BETA

               ETA 11     ETA 12     ETA 13     ETA 14
              --------   --------   --------   --------
   ETA 1        0.000      0.000      0.000      0.000
   ETA 2        0.000      0.000      0.000      0.000
   ETA 3        0.000      0.000      0.000      0.000
   ETA 4        0.000      0.000      0.000      0.000
   ETA 5        0.000      0.000      0.000      0.000
   ETA 6        0.000      0.000      0.000      0.000
   ETA 7        0.000      0.000      0.000      0.000
   ETA 8       -0.011      0.061      0.006     -0.005
   ETA 9       -0.002      0.009     -0.004      0.002
  ETA 10        0.000      0.000      0.000      0.000
  ETA 11        0.000      0.000      0.000      0.000
  ETA 12        0.000      0.000      0.000      0.000
  ETA 13        0.000      0.000      0.000      0.000
  ETA 14        0.000      0.000      0.000      0.000

         PSI

                ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
              --------   --------   --------   --------   --------   --------   --------   --------   --------   --------
   ETA 1       81.708
   ETA 2        8.254     58.640
   ETA 3        0.577     -1.901      5.612
   ETA 4       11.072     35.661     -1.609     35.880
   ETA 5        0.000      0.000      0.000      0.000     13.171
   ETA 6        0.000      0.000      0.000      0.000      0.000     14.638
   ETA 7        0.000      0.000      0.000      0.000      0.000      0.000      0.410
   ETA 8        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.814
   ETA 9        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.698
  ETA 10        0.000      0.000      6.244      0.000      0.000      0.000      0.000      0.000      0.000     10.539
  ETA 11       -0.938      0.389     -0.706     -0.893      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 12       -1.257     -0.753     -0.278     -1.554      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 13        3.110      3.837     -0.683      3.141      0.000      0.000      0.000      0.000      0.000      0.000
  ETA 14        6.878      3.710     -0.266      2.001      0.000      0.000      0.000      0.000      0.000      0.000
```

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:38    University of Alberta

        PSI

              ETA 11     ETA 12     ETA 13     ETA 14
  ETA 11      15.410
  ETA 12       3.458      8.322
  ETA 13       5.342      0.301     21.553
  ETA 14       2.519      4.221     10.083     33.211

        THETA EPS

           SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSPITE     SINSULT    RSPITE     RINSULT    BABY       WORK
SDISCUSS      4.300
SSPANKS       0.000      5.807
RINCOME       0.000      0.000      0.360
RSPANKS       0.000      0.000      0.000      1.903
SSPITE        0.000      0.000      0.000      0.000      3.674
SINSULT       0.000      0.000      0.000      0.000      0.000     24.156
RSPITE        0.000      0.000      0.000      0.000      0.000      0.000      6.680
RINSULT       0.000      0.000      0.000      0.000      0.000     14.818      0.000     24.325
BABY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.015
WORK          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.691
DRUNK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MONEY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        THETA EPS

           DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
DRUNK         0.107
ACHIEVER      0.000      0.177
MONEY         0.000      0.000      1.622
DADHIT        0.000      0.000      0.000      0.811
MOMHIT        0.000      0.000      0.000      0.000      0.438
DADSPANK      0.000      0.000      0.000      0.000      0.000      1.134
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      3.690

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

           SDISCUSS   SSPANKS    RINCOME    RSPANKS    SSPITE     SINSULT    RSPITE     RINSULT    BABY       WORK
              0.950      0.910      0.945      0.950      0.887      0.438      0.811      0.544      0.966      0.027

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

           DRUNK      ACHIEVER   MONEY      DADHIT     MOMHIT     DADSPANK   MOMSPANK
              0.888      0.798      0.872      0.950      0.950      0.950      0.900

        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000
```

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:33:38    University of Alberta

         SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9      ETA 10
            ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
              0.000      0.000      0.075      0.013      0.546      0.483      0.041      0.040      0.002      0.047

         SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

             ETA 11     ETA 12     ETA 13     ETA 14
            ________   ________   ________   ________
              0.000      0.000      0.000      0.000

         TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS  0.330


                  MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

     CHI-SQUARE WITH 154 DEGREES OF FREEDOM IS    178.68 (PROB. LEVEL = 0.085)

                        GOODNESS OF FIT INDEX IS 0.968

                     ROOT MEAN SQUARE RESIDUAL IS     0.897
```

University of Alberta

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21 Aug 93   EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:34:46    University of Alberta

TITLE  EXPLAINING PSYCHOLOGICAL VIOLENCE (FEMALE HALF)

STANDARD ERRORS

        LAMBDA Y

               ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7      ETA 8      ETA 9     ETA 10
            ________   ________   ________   ________   ________   ________   ________   ________   ________   ________
SDISCUSS      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPANKS       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINCOME       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RSPANKS       0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SSPITE        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
SINSULT       0.000      0.000      0.000      0.000      0.056      0.000      0.000      0.000      0.000      0.000
RSPITE        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
RINSULT       0.000      0.000      0.000      0.000      0.000      0.063      0.000      0.000      0.000      0.000
BABY          0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
WORK          0.000      0.000      0.000      0.000      0.000      0.000      0.075      0.000      0.000      0.000
DRUNK         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MONEY         0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMHIT        0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DADSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
MOMSPANK      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000

        LAMBDA Y

              ETA 11     ETA 12     ETA 13     ETA 14
            ________   ________   ________   ________
SDISCUSS      0.000      0.000      0.000      0.000
SSPANKS       0.000      0.000      0.000      0.000
RINCOME       0.000      0.000      0.000      0.000
RSPANKS       0.000      0.000      0.000      0.000
SSPITE        0.000      0.000      0.000      0.000
SINSULT       0.000      0.000      0.000      0.000
RSPITE        0.000      0.000      0.000      0.000
RINSULT       0.000      0.000      0.000      0.000
BABY          0.000      0.000      0.000      0.000
WORK          0.000      0.000      0.000      0.000
DRUNK         0.000      0.000      0.000      0.000
ACHIEVER      0.000      0.000      0.000      0.000
MONEY         0.000      0.000      0.000      0.000
DADHIT        0.000      0.000      0.000      0.000
MOMHIT        0.000      0.000      0.000      0.000
DADSPANK      0.000      0.000      0.000      0.000
MOMSPANK      0.000      0.000      0.000      0.000
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University of Alberta

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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:34:46     University of Alberta

        BETA

               ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7     ETA 8     ETA 9    ETA 10
             --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
   ETA 1       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 2       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 3       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.189     0.000
   ETA 4       0.000     0.000     0.000     0.000     0.000     0.000     0.373     0.000     0.000     0.000
   ETA 5       0.027     0.034     0.000     0.000     0.000     0.099     0.380     0.000     0.000     0.000
   ETA 6       0.000     0.000     0.112     0.048     0.134     0.000     0.412     0.327     0.361     0.000
   ETA 7       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.044     0.053     0.012
   ETA 8       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.074     0.000
   ETA 9       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 10       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.272     0.000
  ETA 11       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 12       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 13       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 14       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000

        BETA

              ETA 11    ETA 12    ETA 13    ETA 14
             --------  --------  --------  --------
   ETA 1       0.000     0.000     0.000     0.000
   ETA 2       0.000     0.000     0.000     0.000
   ETA 3       0.000     0.000     0.000     0.000
   ETA 4       0.000     0.000     0.000     0.000
   ETA 5       0.000     0.000     0.000     0.000
   ETA 6       0.000     0.000     0.000     0.000
   ETA 7       0.000     0.000     0.000     0.000
   ETA 8       0.016     0.022     0.014     0.012
   ETA 9       0.016     0.021     0.014     0.011
  ETA 10       0.000     0.000     0.000     0.000
  ETA 11       0.000     0.000     0.000     0.000
  ETA 12       0.000     0.000     0.000     0.000
  ETA 13       0.000     0.000     0.000     0.000
  ETA 14       0.000     0.000     0.000     0.000

        PSI

               ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7     ETA 8     ETA 9    ETA 10
             --------  --------  --------  --------  --------  --------  --------  --------  --------  --------
   ETA 1       7.034
   ETA 2       4.332     5.271
   ETA 3       0.896     0.782     0.492
   ETA 4       3.359     3.521     0.601     3.091
   ETA 5       0.000     0.000     0.000     0.000     1.737
   ETA 6       0.000     0.000     0.000     0.000     0.000     3.387
   ETA 7       0.000     0.000     0.000     0.000     0.000     0.000     0.035
   ETA 8       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.076
   ETA 9       0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.072
  ETA 10       0.000     0.000     0.617     0.000     0.000     0.000     0.000     0.000     0.000     1.005
  ETA 11       2.161     1.870     0.391     1.433     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 12       1.589     1.375     0.286     1.056     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 13       2.561     2.222     0.462     1.703     0.000     0.000     0.000     0.000     0.000     0.000
  ETA 14       3.282     2.828     0.587     2.163     0.000     0.000     0.000     0.000     0.000     0.000
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University of Alberta

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21 Aug 93    EXPLAINING PSYCHOLOGICAL VIOLENCE (STACKED MODEL)
09:34:46     University of Alberta


         PSI

              ETA 11      ETA 12      ETA 13      ETA 14
 ETA 11        1.327
 ETA 12        0.718       0.716
 ETA 13        1.152       0.815       1.855
 ETA 14        1.422       1.068       1.772       3.018

         THETA EPS

             SDISCUSS    SSPANKS     RINCOME     RSPANKS     SSPITE      SINSULT     RSPITE      RINSULT     BABY        WORK
 SDISCUSS      0.000
 SSPANKS       0.000       0.000
 RINCOME       0.000       0.000       0.000
 RSPANKS       0.000       0.000       0.000       0.000
 SSPITE        0.000       0.000       0.000       0.000       0.000
 SINSULT       0.000       0.000       0.000       0.000       0.000       2.148
 RSPITE        0.000       0.000       0.000       0.000       0.000       0.000       0.000
 RINSULT       0.000       0.000       0.000       0.000       0.000       1.822       0.000       2.413
 BABY          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 WORK          0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.057
 DRUNK         0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 ACHIEVER      0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MONEY         0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 DADHIT        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MOMHIT        0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 DADSPANK      0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000
 MOMSPANK      0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000       0.000

         THETA EPS

             DRUNK       ACHIEVER    MONEY       DADHIT      MOMHIT      DADSPANK    MOMSPANK
 DRUNK         0.000
 ACHIEVER      0.000       0.000
 MONEY         0.000       0.000       0.000
 DADHIT        0.000       0.000       0.000       0.000
 MOMHIT        0.000       0.000       0.000       0.000       0.000
 DADSPANK      0.000       0.000       0.000       0.000       0.000       0.000
 MOMSPANK      0.000       0.000       0.000       0.000       0.000       0.000       0.000
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APPENDIX 4
COMPUTER OUTPUT: CULTURE OF VIOLENCE AND DOMESTIC VIOLENCE
(LISTWISE MATRIX)

University of Alberta

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21 Aug 93   SPSS-X RELEASE 3.0 FOR IBM MTS
09:42:38    University of Alberta

For                        University of Alberta             License Number 30
This software is functional through January 31, 1999.

Try the new SPSS-X Release 3.0 features:

• Interactive SPSS-X command execution        • Improvements in:
• Online Help                                 •   REPORT
• Nonlinear Regression                        •   TABLES
• Time Series and Forecasting (TRENDS)        •   Simplified Syntax
• Macro Facility                              •   Matrix I/O

See SPSS-X User's Guide, Third Edition for more information on these features.

    1  0  title 'IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES'
    2  0  file handle #8/name='CULT.MALES'
    3  0  file handle #9/name='CULT.FEM'
    4  0  INPUT PROGRAM
    5  0  NUMERIC A
    6  0  END FILE
    7  0  END INPUT PROGRAM
    8  0  USERPROC NAME=LISREL
    9  0  TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (MALES)
   10  0  DA NI=9 NO=340 MA=CM NG=2
   11  0  CM UN=8 FU FO
   12  0  (9F10.4)
   13  0  LA
   14  0   'THREW' 'PUSH' 'SLAP' 'CABUSE' 'ROBBERY' 'DDRIVE' 'THEFT'
   15  0   'WABUSE' 'VNDALISM'
   16  0  SE'
   17  0   'THREW' 'PUSH'        'CABUSE' 'ROBBERY' 'DDRIVE' 'THEFT'
   18  0   'WABUSE' 'VNDALISM'/
   19  0  MO NY=8 NE=7 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
   20  0  VA 1.0 LY(1,1)
   21  0  VA 1.0 LY(3,2) LY(4,3) LY(5,4) LY(6,5) LY(7,6) LY(8,7)
   22  0  FR LY(2,1)
   23  0  FR TE(2,2)
   24  0  VA 0.015  TE(1,1)
   25  0  VA 0.3946 TE(3,3)
   26  0  VA 0.0804 TE(4,4)
   27  0  VA 0.4522 TE(5,5)
   28  0  VA 1.057  TE(6,6)
   29  0  VA 0.518  TE(7,7)
   30  0  VA 0.949  TE(8,8)
   31  0  FR BE(1,2) BE(1,3) BE(1,4) BE(1,5) BE(1,6) BE(1,7)
   32  0  FR PS(1,1)
   33  0  FR PS(2,2)
   34  0  FR PS(3,2) PS(3,3)
   35  0  FR PS(4,2) PS(4,3) PS(4,4)
   36  0  FR PS(5,2) PS(5,3) PS(5,4) PS(5,5)
   37  0  FR PS(6,2) PS(6,3) PS(6,4) PS(6,5) PS(6,6)
   38  0  FR PS(7,2) PS(7,3) PS(7,4) PS(7,5) PS(7,6) PS(7,7)
   39  0  OU ML AL
   40  0  TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (FEMALES)
   41  0  DA NI=9 NO=342 MA=CM
   42  0  CM UN=9 FU FO
   43  0  (9F10.4)
```

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:43    University of Alberta

  44  O  LA
  45  O   'THREW' 'PUSH' 'SLAP' 'CABUSE' 'ROBBERY' 'DDRIVE' 'THEFT'
  46  O   'WABUSE' 'VNDALISM'
  47  O  SE'
  48  O   'THREW' 'PUSH'         'CABUSE' 'ROBBERY' 'DDRIVE' 'THEFT'
  49  O   'WABUSE' 'VNDALISM'/
  50  O  MO NY=8 NE=7 LY=FU,FI BE=FU,FI PS=SY,FI TE=SY,FI
  51  O  VA 1.0 LY(2,1)
  52  O  VA 1.0 LY(3,2) LY(4,3) LY(5,4) LY(6,5) LY(7,6) LY(8,7)
  53  O  FR LY(1,1)
  54  O  FR TE(1,1)
  55  O  VA 1.1695 TE(2,2)
  56  O  VA 0.2398 TE(3,3)
  57  O  VA 0.5626 TE(4,4)
  58  O  VA 0.2600 TE(5,5)
  59  O  VA 0.9722 TE(6,6)
  60  O  VA 0.4722 TE(7,7)
  61  O  VA 0.9248 TE(8,8)
  62  O  FR BE(1,2) BE(1,3) BE(1,4) BE(1,5) BE(1,6) BE(1,7)
  63  O  FR PS(1,1)
  64  O  FR PS(2,2)
  65  O  FR PS(3,2) PS(3,3)
  66  O  FR PS(4,2) PS(4,3) PS(4,4)
  67  O  FR PS(5,2) PS(5,3) PS(5,4) PS(5,5)
  68  O  FR PS(6,2) PS(6,3) PS(6,4) PS(6,5) PS(6,6)
  69  O  FR PS(7,2) PS(7,3) PS(7,4) PS(7,5) PS(7,6) PS(7,7)
  70  O  OU ML AL
  71  O  END USER

There are 5119448 bytes of memory available.
The largest contiguous area has 5119448 bytes.
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:43    University of Alberta

TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (MALES)

        COVARIANCE MATRIX TO BE ANALYZED

              THREW      PUSH      CABUSE    ROBBERY    DDRIVE     THEFT     WABUSE   VNDALISM
 THREW       15.922
 PUSH        15.706    15.901
 CABUSE       0.015     0.065     1.973
 ROBBERY      0.273     0.250     0.512     4.021
 DDRIVE       0.046    -0.024     0.411     1.428     2.261
 THEFT        0.428     0.422     0.475     2.256     1.474     5.285
 WABUSE       0.097     0.110     1.503     1.062     0.882     1.174     2.590
 VNDALISM     0.240     0.300     0.223     2.019     1.192     3.551     1.108     4.748

        DETERMINANT = 0.851820E+03
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:43    University of Alberta

TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (FEMALES)

        COVARIANCE MATRIX TO BE ANALYZED

             THREW      PUSH     CABUSE    ROBBERY    DDRIVE     THEFT     WABUSE    VNDALISM
THREW        4.591
PUSH         6.064     11.696
CABUSE       0.066      0.068     1.199
ROBBERY      0.056      0.138     0.185     2.813
DDRIVE       0.135      0.061     0.401     0.661     1.300
THEFT        0.425      0.414     0.282     1.419     0.718     4.861
WABUSE       0.192      0.192     0.873     0.601     0.770     0.959     2.361
VNDALISM     0.370      0.379     0.147     1.596     0.731     3.379     0.937     4.624

        DETERMINANT = 0.702742E+03
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:45    University of Alberta

TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (MALES)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

         LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
THREW         1.000      0.000      0.000      0.000      0.000      0.000      0.000
PUSH          0.987      0.000      0.000      0.000      0.000      0.000      0.000
CABUSE        0.000      1.000      0.000      0.000      0.000      0.000      0.000
ROBBERY       0.000      0.000      1.000      0.000      0.000      0.000      0.000
DDRIVE        0.000      0.000      0.000      1.000      0.000      0.000      0.000
THEFT         0.000      0.000      0.000      0.000      1.000      0.000      0.000
WABUSE        0.000      0.000      0.000      0.000      0.000      1.000      0.000
VNDALISM      0.000      0.000      0.000      0.000      0.000      0.000      1.000

         BETA

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
   ETA 1      0.000     -0.205      0.050     -0.146      0.291      0.192     -0.232
   ETA 2      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 3      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 4      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 5      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 6      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 7      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         PSI

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
   ETA 1     15.817
   ETA 2      0.000      1.578
   ETA 3      0.000      0.512      3.940
   ETA 4      0.000      0.411      1.428      1.808
   ETA 5      0.000      0.475      2.256      1.474      4.228
   ETA 6      0.000      1.503      1.062      0.882      1.174      2.072
   ETA 7      0.000      0.223      2.019      1.192      3.551      1.108      3.799

         THETA EPS

              THREW      PUSH       CABUSE     ROBBERY    DDRIVE     THEFT      WABUSE     VNDALISM
THREW         0.015
PUSH          0.000      0.393
CABUSE        0.000      0.000      0.395
ROBBERY       0.000      0.000      0.000      0.080
DDRIVE        0.000      0.000      0.000      0.000      0.452
THEFT         0.000      0.000      0.000      0.000      0.000      1.057
WABUSE        0.000      0.000      0.000      0.000      0.000      0.000      0.518
VNDALISM      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.949
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:46    University of Alberta

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

           THREW      PUSH       CABUSE     ROBBERY    DDRIVE     THEFT      WABUSE     VNDALISM
           ________   ________   ________   ________   ________   ________   ________   ________
              0.999      0.975      0.800      0.980      0.800      0.800      0.800      0.800

        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
           ________   ________   ________   ________   ________   ________   ________
              0.006      0.000      0.000      0.000      0.000      0.000      0.000

        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS -0.000


                MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

                     GOODNESS OF FIT INDEX IS 0.996

                   ROOT MEAN SQUARE RESIDUAL IS     0.018
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:46    University of Alberta

TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (MALES)

STANDARD ERRORS

        LAMBDA Y

              ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7
THREW         0.000     0.000     0.000     0.000     0.000     0.000     0.000
PUSH          0.009     0.000     0.000     0.000     0.000     0.000     0.000
CABUSE        0.000     0.000     0.000     0.000     0.000     0.000     0.000
ROBBERY       0.000     0.000     0.000     0.000     0.000     0.000     0.000
DDRIVE        0.000     0.000     0.000     0.000     0.000     0.000     0.000
THEFT         0.000     0.000     0.000     0.000     0.000     0.000     0.000
WABUSE        0.000     0.000     0.000     0.000     0.000     0.000     0.000
VNDALISM      0.000     0.000     0.000     0.000     0.000     0.000     0.000

        BETA

              ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7
   ETA 1      0.000     0.731     0.149     0.299     0.501     0.709     0.567
   ETA 2      0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 3      0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 4      0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 5      0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 6      0.000     0.000     0.000     0.000     0.000     0.000     0.000
   ETA 7      0.000     0.000     0.000     0.000     0.000     0.000     0.000

        PSI

              ETA 1     ETA 2     ETA 3     ETA 4     ETA 5     ETA 6     ETA 7
   ETA 1      1.230
   ETA 2      0.000     0.152
   ETA 3      0.000     0.155     0.309
   ETA 4      0.000     0.117     0.181     0.174
   ETA 5      0.000     0.177     0.279     0.204     0.406
   ETA 6      0.000     0.147     0.185     0.140     0.211     0.199
   ETA 7      0.000     0.167     0.261     0.189     0.333     0.200     0.365

        THETA EPS

              THREW     PUSH      CABUSE    ROBBERY   DDRIVE    THEFT     WABUSE    VNDALISM
THREW         0.000
PUSH          0.000     0.031
CABUSE        0.000     0.000     0.000
ROBBERY       0.000     0.000     0.000     0.000
DDRIVE        0.000     0.000     0.000     0.000     0.000
THEFT         0.000     0.000     0.000     0.000     0.000     0.000
WABUSE        0.000     0.000     0.000     0.000     0.000     0.000     0.000
VNDALISM      0.000     0.000     0.000     0.000     0.000     0.000     0.000     0.000
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21 Aug 93    IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:47     University of Alberta

TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (FEMALES)

LISREL ESTIMATES (MAXIMUM LIKELIHOOD)

         LAMBDA Y

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
THREW         0.576      0.000      0.000      0.000      0.000      0.000      0.000
PUSH          1.000      0.000      0.000      0.000      0.000      0.000      0.000
CABUSE        0.000      1.000      0.000      0.000      0.000      0.000      0.000
ROBBERY       0.000      0.000      1.000      0.000      0.000      0.000      0.000
DDRIVE        0.000      0.000      0.000      1.000      0.000      0.000      0.000
THEFT         0.000      0.000      0.000      0.000      1.000      0.000      0.000
WABUSE        0.000      0.000      0.000      0.000      0.000      1.000      0.000
VNDALISM      0.000      0.000      0.000      0.000      0.000      0.000      1.000

         BETA

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
   ETA 1      0.000     -0.008     -0.046     -0.017      0.102      0.079      0.031
   ETA 2      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 3      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 4      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 5      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 6      0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 7      0.000      0.000      0.000      0.000      0.000      0.000      0.000

         PSI

              ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
   ETA 1     10.449
   ETA 2      0.000      0.960
   ETA 3      0.000      0.185      2.250
   ETA 4      0.000      0.401      0.661      1.040
   ETA 5      0.000      0.282      1.419      0.718      3.889
   ETA 6      0.000      0.873      0.601      0.770      0.959      1.888
   ETA 7      0.000      0.147      1.596      0.731      3.379      0.937      3.699

         THETA EPS

              THREW      PUSH       CABUSE     ROBBERY    DDRIVE     THEFT      WABUSE     VNDALISM
THREW         1.094
PUSH          0.000      1.169
CABUSE        0.000      0.000      0.240
ROBBERY       0.000      0.000      0.000      0.563
DDRIVE        0.000      0.000      0.000      0.000      0.260
THEFT         0.000      0.000      0.000      0.000      0.000      0.972
WABUSE        0.000      0.000      0.000      0.000      0.000      0.000      0.472
VNDALISM      0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.925
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE:BOTH SEXES
09:42:47    University of Alberta

        SQUARED MULTIPLE CORRELATIONS FOR Y - VARIABLES

          THREW      PUSH       CABUSE     ROBBERY    DDRIVE     THEFT      WABUSE     VNDALISM
          -------- --------   --------   --------   --------   --------   --------   --------
             0.762    0.900      0.800      0.800      0.800      0.800      0.800      0.800

        TOTAL COEFFICIENT OF DETERMINATION FOR Y - VARIABLES IS  1.000

        SQUARED MULTIPLE CORRELATIONS FOR STRUCTURAL EQUATIONS

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
          --------   --------   --------   --------   --------   --------   --------
             0.007      0.000      0.000      0.000      0.000      0.000      0.000

        TOTAL COEFFICIENT OF DETERMINATION FOR STRUCTURAL EQUATIONS  IS -0.000


                MEASURES OF GOODNESS OF FIT FOR THE WHOLE MODEL :

     CHI-SQUARE WITH  12 DEGREES OF FREEDOM IS      10.03 (PROB. LEVEL = 0.613)

                      GOODNESS OF FIT INDEX IS 0.997

                    ROOT MEAN SQUARE RESIDUAL IS     0.040
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University of Alberta

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21 Aug 93   IDEOLOGICAL SUPPORT FOR VIOLENCE;BOTH SEXES
09:42:48    University of Alberta

TITLE  IDEOLOGICAL SUPPORT FOR VIOLENCE (FEMALES)

STANDARD ERRORS

        LAMBDA Y

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
THREW        0.022      0.000      0.000      0.000      0.000      0.000      0.000
PUSH         0.000      0.000      0.000      0.000      0.000      0.000      0.000
CABUSE       0.000      0.000      0.000      0.000      0.000      0.000      0.000
ROBBERY      0.000      0.000      0.000      0.000      0.000      0.000      0.000
DDRIVE       0.000      0.000      0.000      0.000      0.000      0.000      0.000
THEFT        0.000      0.000      0.000      0.000      0.000      0.000      0.000
WABUSE       0.000      0.000      0.000      0.000      0.000      0.000      0.000
VNDALISM     0.000      0.000      0.000      0.000      0.000      0.000      0.000

        BETA

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
   ETA 1     0.000      0.340      0.190      0.282      0.375      0.269      0.418
   ETA 2     0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 3     0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 4     0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 5     0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 6     0.000      0.000      0.000      0.000      0.000      0.000      0.000
   ETA 7     0.000      0.000      0.000      0.000      0.000      0.000      0.000

        PSI

             ETA 1      ETA 2      ETA 3      ETA 4      ETA 5      ETA 6      ETA 7
   ETA 1     0.891
   ETA 2     0.000      0.092
   ETA 3     0.000      0.100      0.215
   ETA 4     0.000      0.071      0.110      0.100
   ETA 5     0.000      0.132      0.214      0.142      0.372
   ETA 6     0.000      0.103      0.143      0.104      0.191      0.181
   ETA 7     0.000      0.128      0.214      0.139      0.315      0.186      0.354

        THETA EPS

             THREW      PUSH       CABUSE     ROBBERY    DDRIVE     THEFT      WABUSE     VNDALISM
THREW        0.114
PUSH         0.000      0.000
CABUSE       0.000      0.000      0.000
ROBBERY      0.000      0.000      0.000      0.000
DDRIVE       0.000      0.000      0.000      0.000      0.000
THEFT        0.000      0.000      0.000      0.000      0.000      0.000
WABUSE       0.000      0.000      0.000      0.000      0.000      0.000      0.000
VNDALISM     0.000      0.000      0.000      0.000      0.000      0.000      0.000      0.000
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